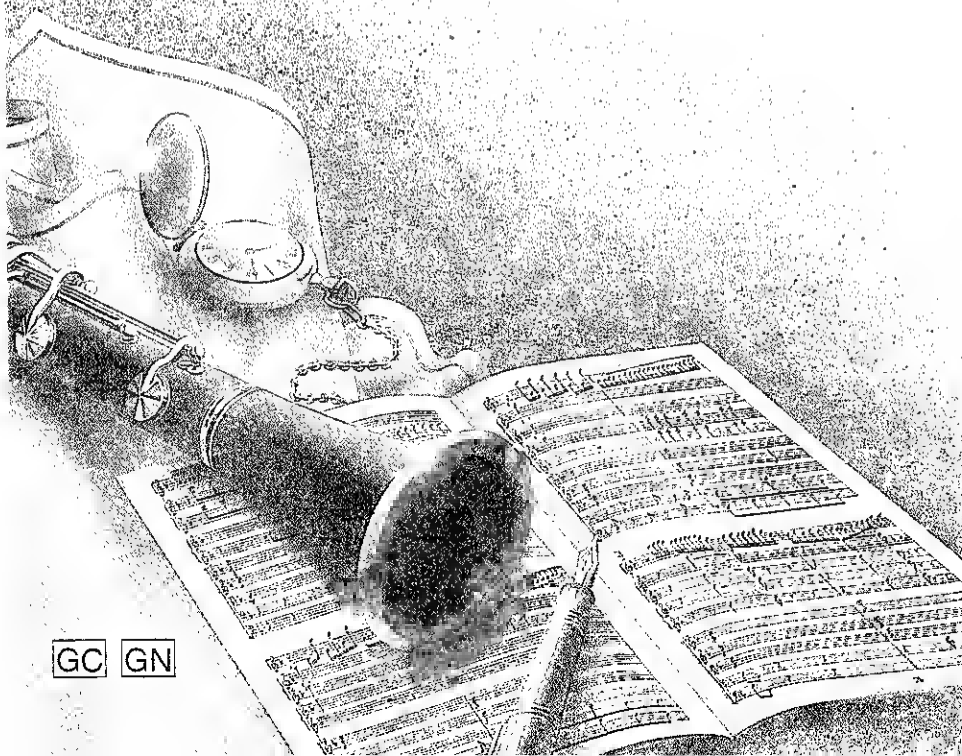
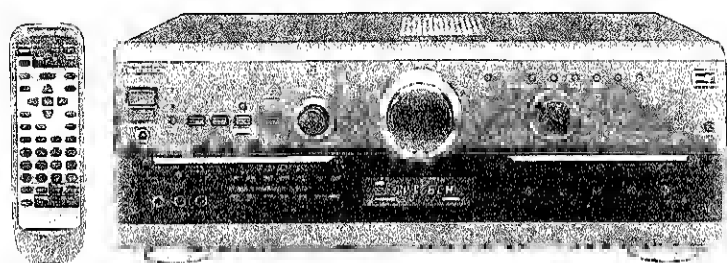


AV Control Stereo Receiver

Technics®

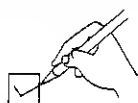
SA-AX6

Operating Instructions



Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

Supplied accessories



Please check and identify the supplied accessories.



AC power supply cord (1)



(For Australia and N.Z.)



(For others)



Power plug adaptor (1)

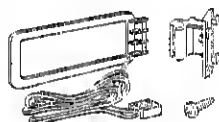


(For areas except Australia and N.Z.)



AM loop antenna set

- AM loop antenna (1)
- AM loop antenna holder (1)
- Screw (1)



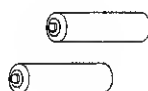
FM indoor antenna (1)



Antenna plug (1)



Batteries (2)



Remote control transmitter (1)



(EUR646469)

Dear Customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

(For areas except Australia and N.Z.)

CAUTION:

The AC voltage is different according to the area.

Be sure to set the proper voltage in your area before use.

(For details, please refer to the page 9.)

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Maintenance	Back cover

Suggestions for safety

Placement

Avoid placing the unit in areas of:

- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

Stacking

Never place heavy items on top of the unit or the AC power cord.

Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.
A fire might be caused by such a connection.
- A DC power source can not be used.
Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

Power cord connection

- Avoid cuts, scratches or poor connection of the AC power cord, as this may result in fire or electric shock.
Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit.
Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.
(Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

Service

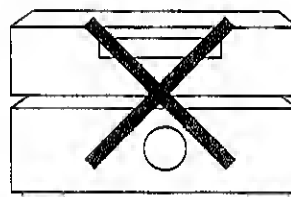
- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.
A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION CONDITION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.

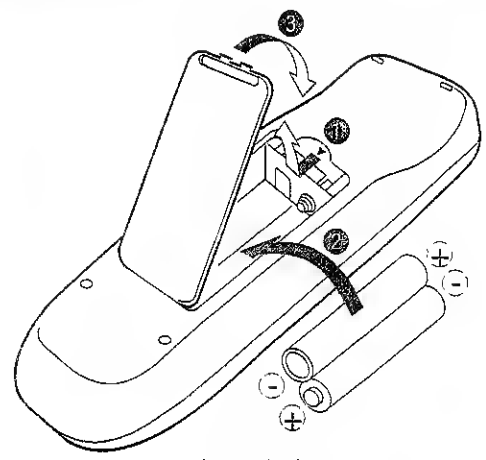
CAUTION

Do not place a tape deck or CD player on top of this unit. Heat radiated from the top of this unit may cause damage to the tape or CD software.



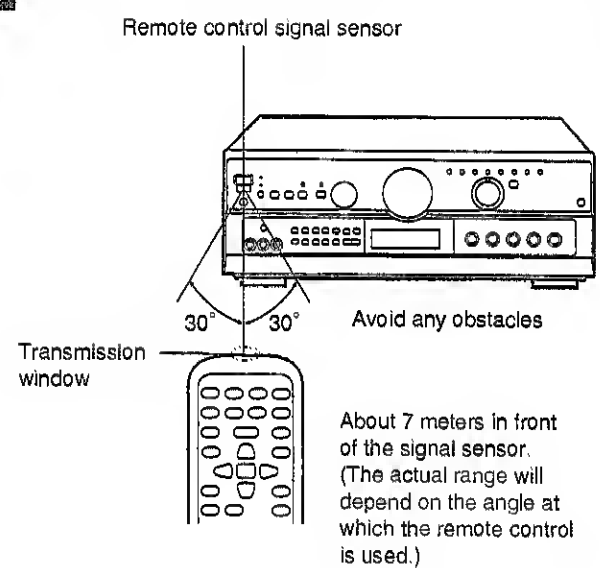
NO

A



Insert the batteries in the correct polarities (+, -).

B



Concerning the remote control

Battery installation

A

- Thoroughly clean the battery compartment before inserting new batteries.
- Do not mix old and new batteries, or batteries of different types (carbon and alkaline, etc.).
- If you will not use the remote control for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not use rechargeable type batteries.
- Do not attempt to recharge alkaline or carbon batteries.
- Always remove old, weak or worn-out batteries promptly and dispose of them properly.
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the leaking electrolyte comes into contact with skin or clothes, flush with water immediately.

When you need to replace these batteries

Use two R6/LR6, AA, UM-3 batteries.

Method for use

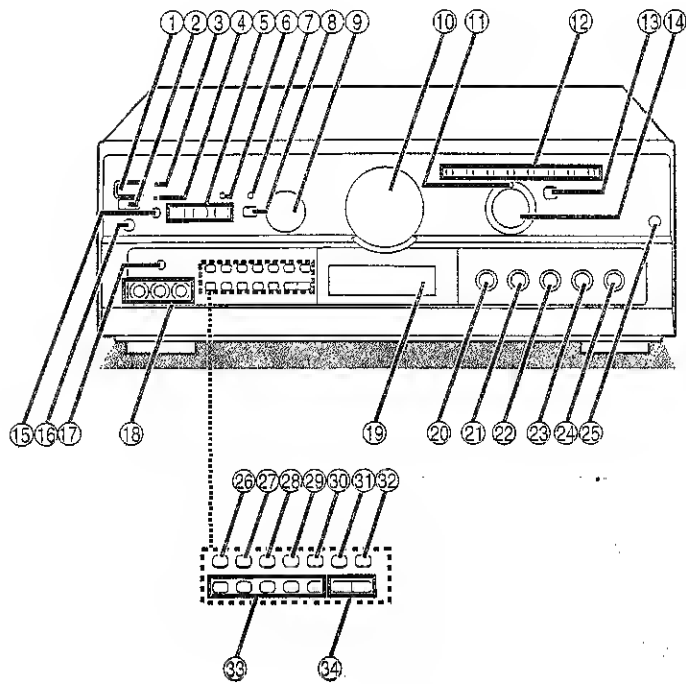
B






Note

Be sure the transmission window and the signal sensor are free from dust. Excessive dust might effect performance.

The operation may not be correct if direct sunlight or other strong light source strikes the signal sensor of this unit. If there is a problem, place the unit away from the light source.

Front panel controls



- ① Power "STANDBY  /ON" switch
(POWER, STANDBY  /ON)
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.
- ② Remote control signal sensor
- ③ "STANDBY" indicator (STANDBY)
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ④ Wake timer indicator (WAKE)
- ⑤ Speaker select buttons
(SPEAKERS A, B, **BIWIRE**)
- ⑥ Bi-amp indicator (BI-AMP)
- ⑦ Subwoofer adaptive control indicator
(SUBWOOFER ADAPTIVE CONTROL)
- ⑧ Subwoofer adaptive control ON/OFF button
- ⑨ Subwoofer level control (SUBWOOFER LEVEL)
- ⑩ Volume control (VOLUME)
- ⑪ DVD 6ch input indicator
- ⑫ Input Indicators
- ⑬ DVD 6ch input select button (DVD 6CH INPUT)
- ⑭ Input selector (INPUT SELECTOR)
- ⑮ Timer setting button (TIMER)
- ⑯ Headphones jack (PHONES)
- ⑰ TV/VCR 2 input select button ( TV,  VCR 2)
- ⑱ VCR 2 input terminals (VCR 2)
- ⑲ Display
- ⑳ Bass control (BASS)
- ㉑ Treble control (TREBLE)
- ㉒ Balance control (BALANCE)
- ㉓ Bi-amp balance control (BI-AMP BALANCE)
- ㉔ Subwoofer low pass filter control
(SUBWOOFER LOW PASS FILTER)
- ㉕ Front cover open button (PUSH OPEN)
- ㉖ DOLBY PRO LOGIC/SFC OFF/ON button
(OFF/ON)
- ㉗ DOLBY PRO LOGIC mode select button
( PRO LOGIC)
- ㉘ Delay time adjust button (DELAY TIME)
- ㉙ Center mode select button (CENTER MODE)
- ㉚ Band/FM mode select button
(-BAND, -FM MODE)
- ㉛ Radio station presetting button (PRESET)
- ㉜ Memory button (MEMORY)
- ㉝ Sound field control buttons
(SFC **HALL CLUB LIVE THEATER SIMULATED**)
- ㉞ Tuning buttons (TUNING)

Before use

Equipment connections

Make sure that the power supply for all components has been turned off before making any connections.



Refer to the operating instructions of the equipment to be connected.

Note

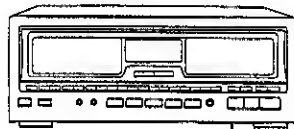
Do not place books, etc., on the top of this unit or block the heat radiation vents in any way.

Connecting audio equipment

Stereo connection cable (not included)

White (L) 
Red (R) 

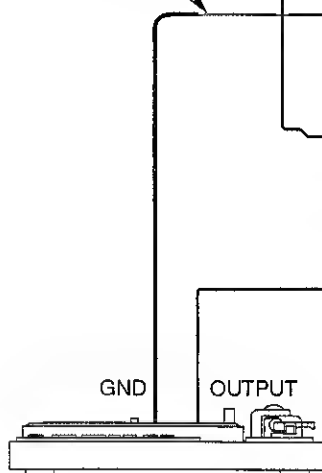
CD changer (or CD player)
(not included)



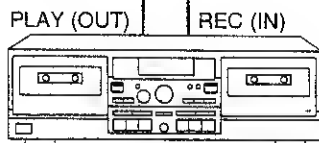
OUTPUT

The cooling fan operates at
high power output levels only.

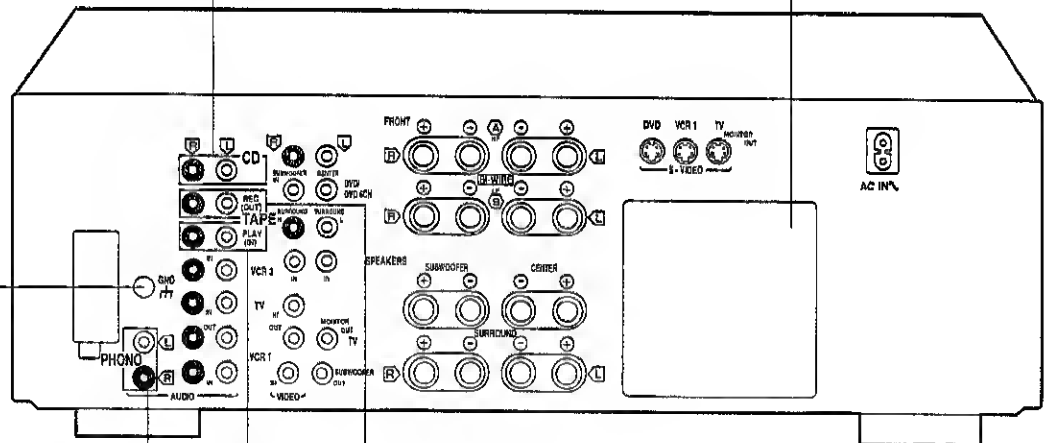
Only for turntable
with ground terminal.



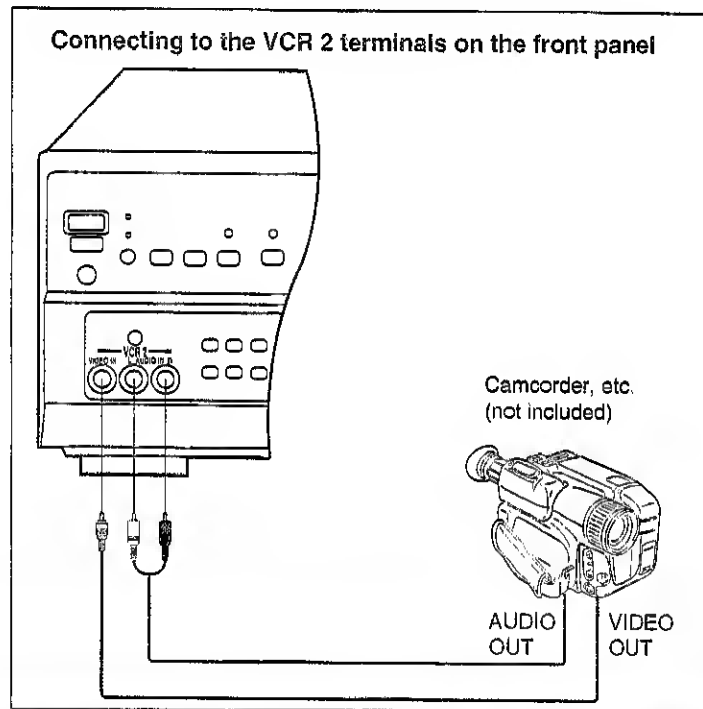
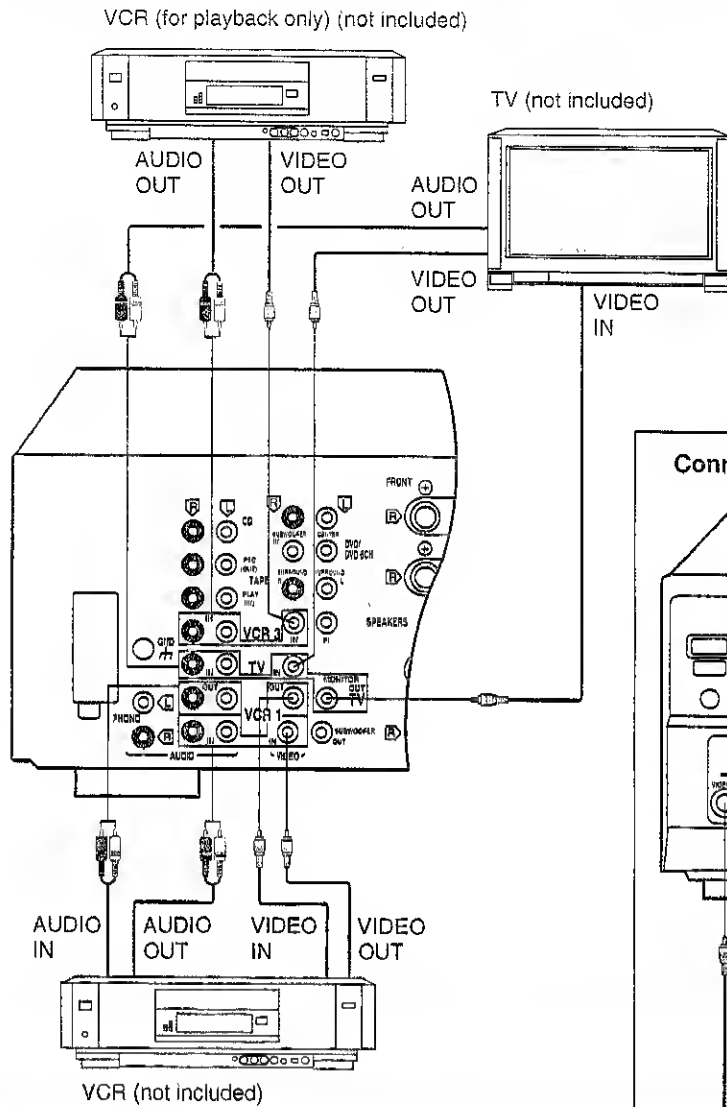
Turntable (not included)



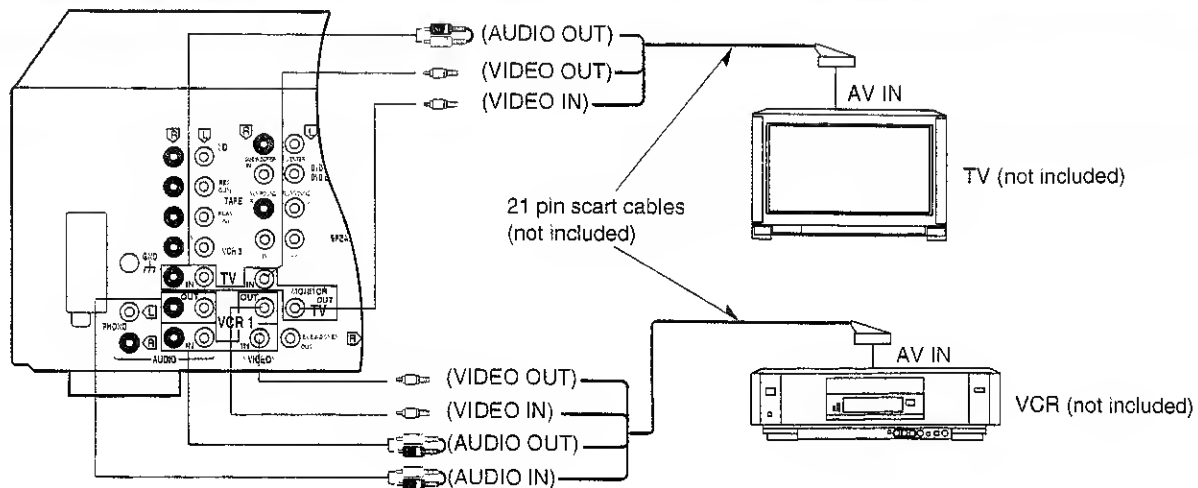
Tape deck (not included)



Connecting video equipment



To connect video equipment with a 21 pin terminal



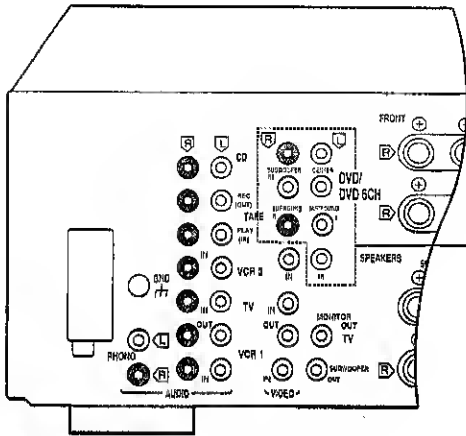
Connecting a DVD player

Stereo connection cable (not included)

White (L) Red (R)

Monaural connection cable (not included)

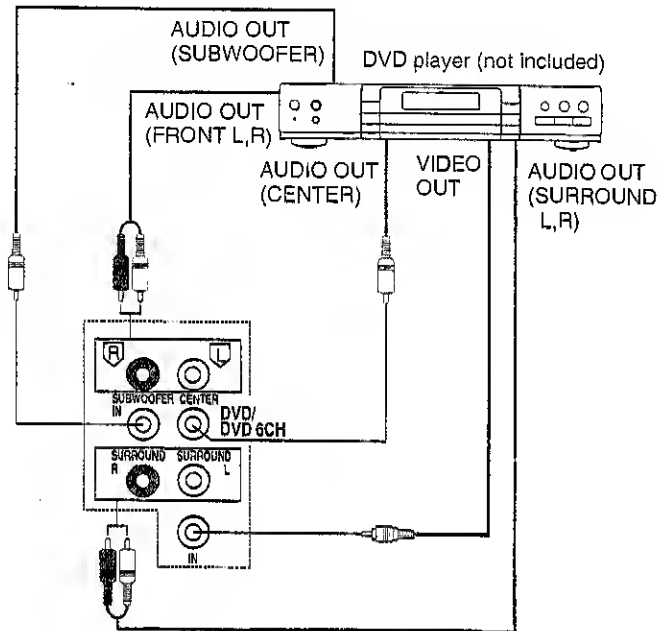
Video connection cable (not included)



Note

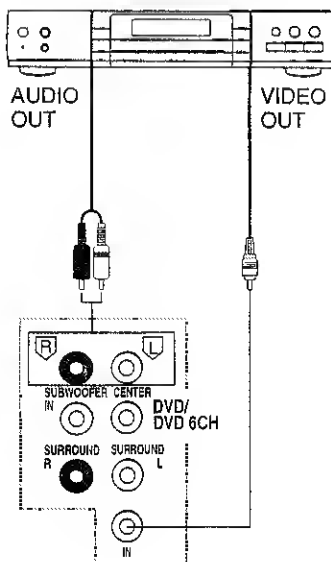
If you want to connect a DVD player with DISCRETE 6CH output using only 2 channels, make the connection through the DVD player's MIXED AUDIO OUT terminals and this unit's DVD/DVD 6CH L and R terminals. Do not connect any cables to this unit's DVD/DVD 6CH CENTER, SUBWOOFER IN, or SURROUND L and R terminals.

Connecting a DVD player with 6 channel discrete output

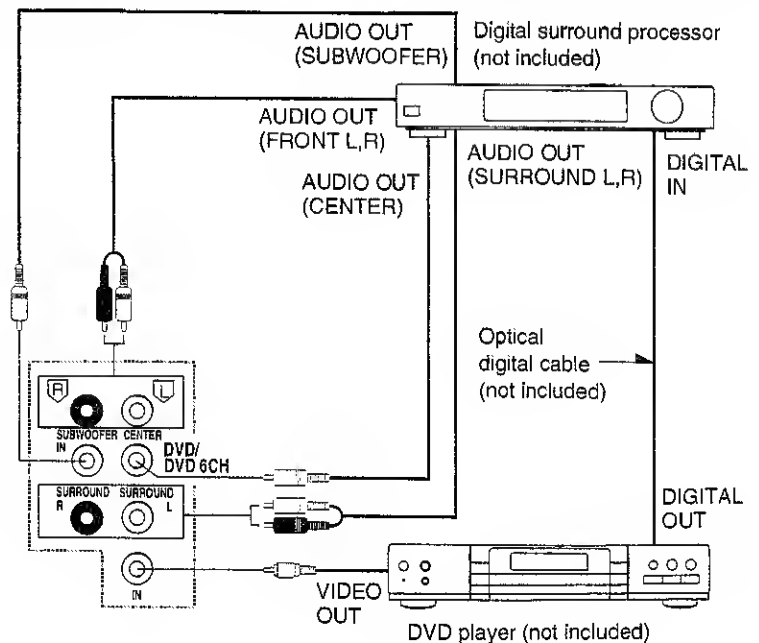


Connecting a DVD player with 2 channel output

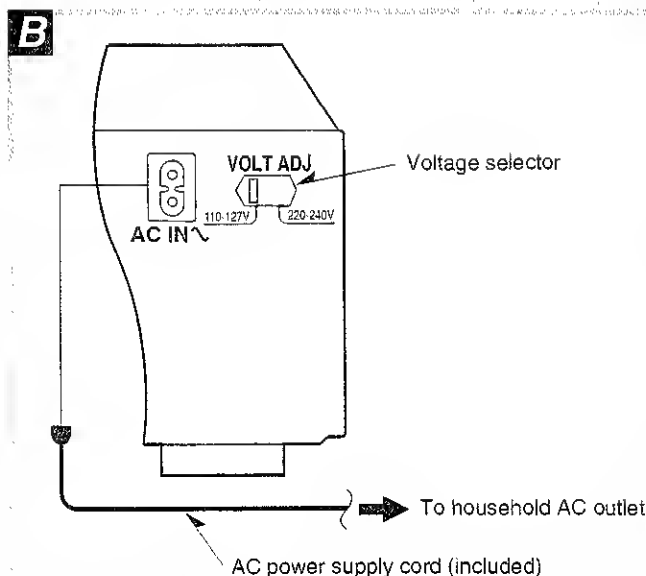
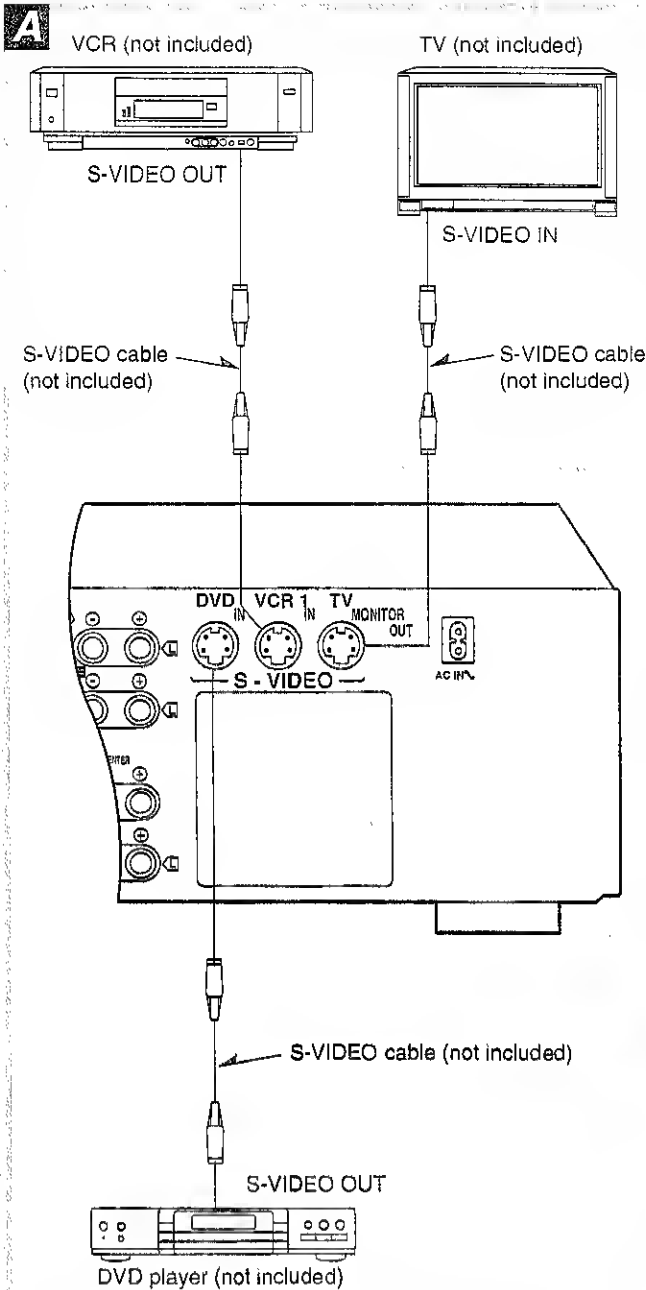
DVD player (not included)



You can enjoy 6 channel discrete sound by making the below connections.



Equipment connections



Connecting to the S-VIDEO terminal

This receiver has S-VIDEO terminals for a DVD player, VCR (VCR 1 only) and TV.

Caution when using a TV with an S-VIDEO terminal

On some television models, the video signal from components which do not use S-VIDEO input and are connected only to the VIDEO terminals will not be shown on the television screen. If this occurs, use one of the following methods to view the video signal.

Does the television have a "VIDEO/S-VIDEO" selector switch?

YES

Set the switch to "VIDEO".

NO

If the television has two or more video input terminals

Connect the VIDEO terminal end and the S-VIDEO terminal to different video input terminals on the television, and switch the picture on the television according to the video source being played.

If the television has only one video input terminal

Disconnect the S-VIDEO cable connected to the television's S-VIDEO terminal and connect only the video terminal.

Note

When using S-VIDEO terminals be aware of the following. Video signals input into the VIDEO terminals cannot be output from S-VIDEO terminals or vice versa.

AC power supply cord

Connect this cord after all other cables and cords are connected.

(For areas except Australia and N.Z.)

Set the voltage selector to the voltage setting for the area in which the unit will be used.

Note

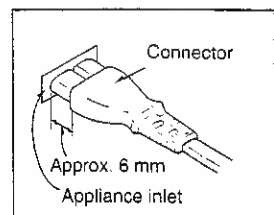
This unit will be seriously damaged if this setting is not made correctly.

(For areas except Australia and N.Z.)

Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

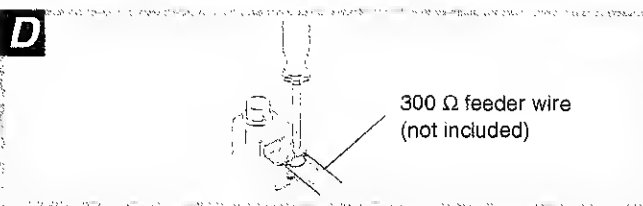
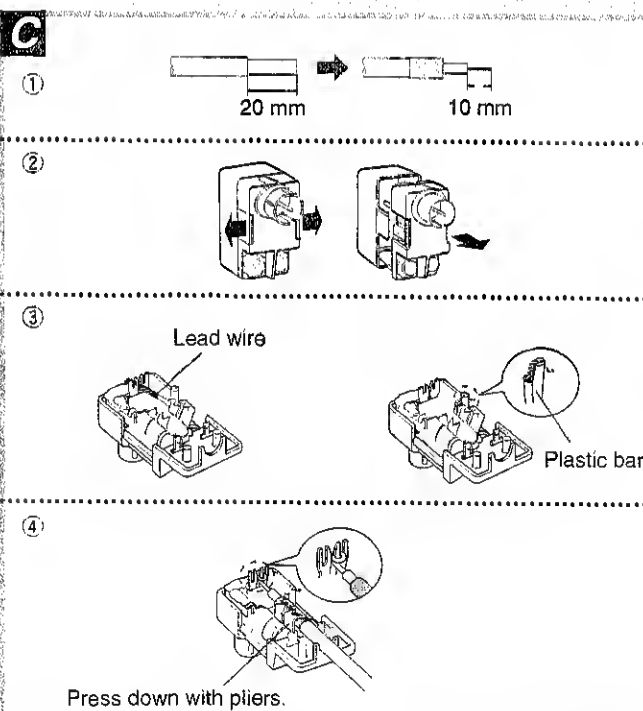
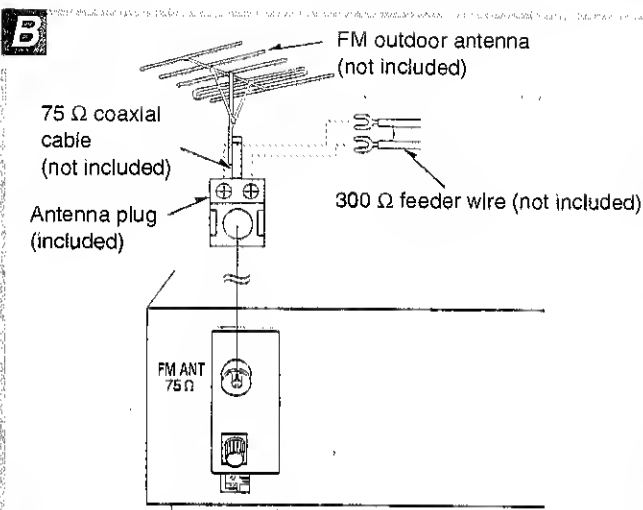
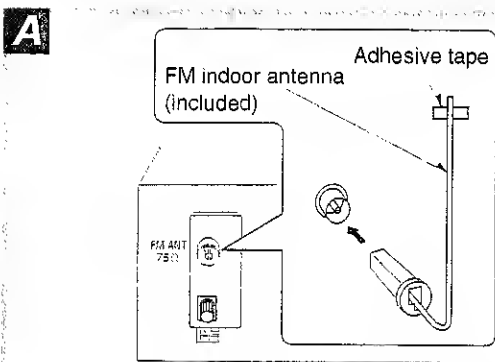
However there is no problem using the unit.



(Some areas)

If the power plug will not fit your socket, use the power plug adaptor (included).





Antenna connections

FM indoor antenna (included)

This antenna is normally sufficient for reception of FM broadcasts.

Attach to a wall (using tape) facing in the direction of best reception.

For best reception

An FM outdoor antenna is recommended.

FM outdoor antenna (not included)

An outdoor antenna should be used when using this unit in mountainous areas or in spaces enclosed by reinforced concrete where the FM indoor antenna (included) does not provide satisfactory reception.

Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

Note

An outdoor antenna should be installed by a qualified technician only.

How to use the antenna plug (included)

Two types of wire are most commonly used for connection from the antenna: 300 Ω parallel feeder wire or 75 Ω coaxial cable. For best resistance to outside interference, the use of 75 Ω coaxial cable is suggested.

To connect a 75 Ω coaxial cable

- 1 Remove a piece of the outer vinyl insulator.
- 2 Remove the cover while pulling the tabs.

Note

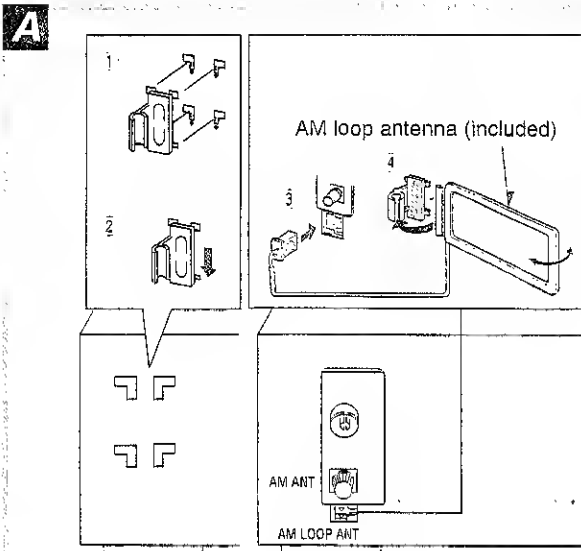
If the tabs are pulled too hard, the casing may be damaged.

- 3 Remove the lead wire and clamp it with the plastic bar.
- 4 Install the coaxial cable. Clamp the cable conductor, and wind it on so that it doesn't contact anything else.
- 5 Attach the cover.

To connect a 300 Ω feeder wire

Loosen the screw to connect the feeder wire and tighten it to secure the connection.

Antenna connections



AM loop antenna (included)

This antenna is normally sufficient for reception of AM broadcasts.

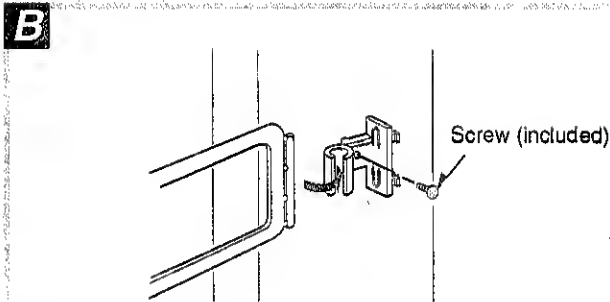
Fit the AM loop antenna holder (included) onto the rear panel of this unit and then attach the AM loop antenna to the AM loop antenna holder (facing in the direction of best reception).

Pay attention to the following points when mounting the antenna.

- Do not mount it close to power cords, speaker wires or metal surfaces (Doing so will result in noise).
- Do not mount it close to a tape deck. When the tape deck is being used, chirping or beeping sounds may result.

When mounting the antenna to a column, a wall or rack

Mount the antenna so that the hinge is vertical.



AM outdoor antenna (not included)

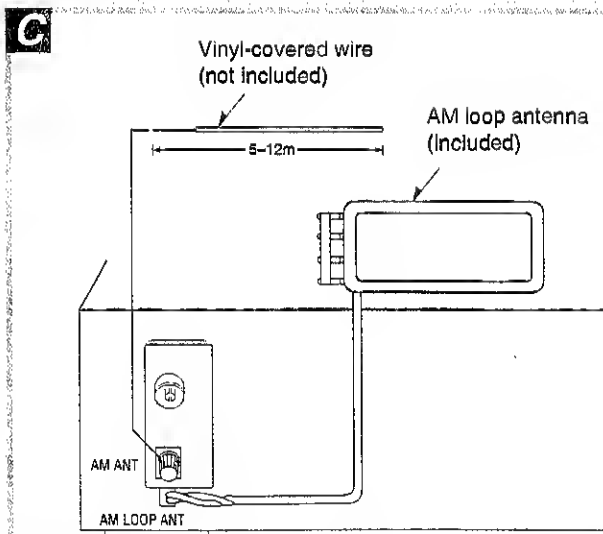
An outdoor antenna should be used when using this unit in mountainous areas or in spaces enclosed by reinforced concrete where the AM loop antenna (included) does not provide satisfactory reception.

Stretch 5 to 12 m of vinyl-covered wire horizontally across a window frame or other convenient location, keeping it as high as possible from the ground.

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

Note

Be sure to connect the AM loop antenna even when AM outdoor antenna is used.



Before use

Diagram illustrating the components of a 5.1 channel audio system:

- Center speaker (not included)
- Front speaker (Left) (not included)
- Front speaker (Right) (not included)
- TV (not included)
- Subwoofer (not included)
- Surround speaker (Left) (not included)
- Surround speaker (Right) (not included)

Place the front left/right speakers at both the left and right sides of the TV at seated ear height so that there is good coherency between the picture and sound.

Place the center speaker underneath or above the center of the TV.
Aim the speaker at the seating area.

Place the surround speakers on the side of or slightly behind the listener, and about one meter higher than ear level.

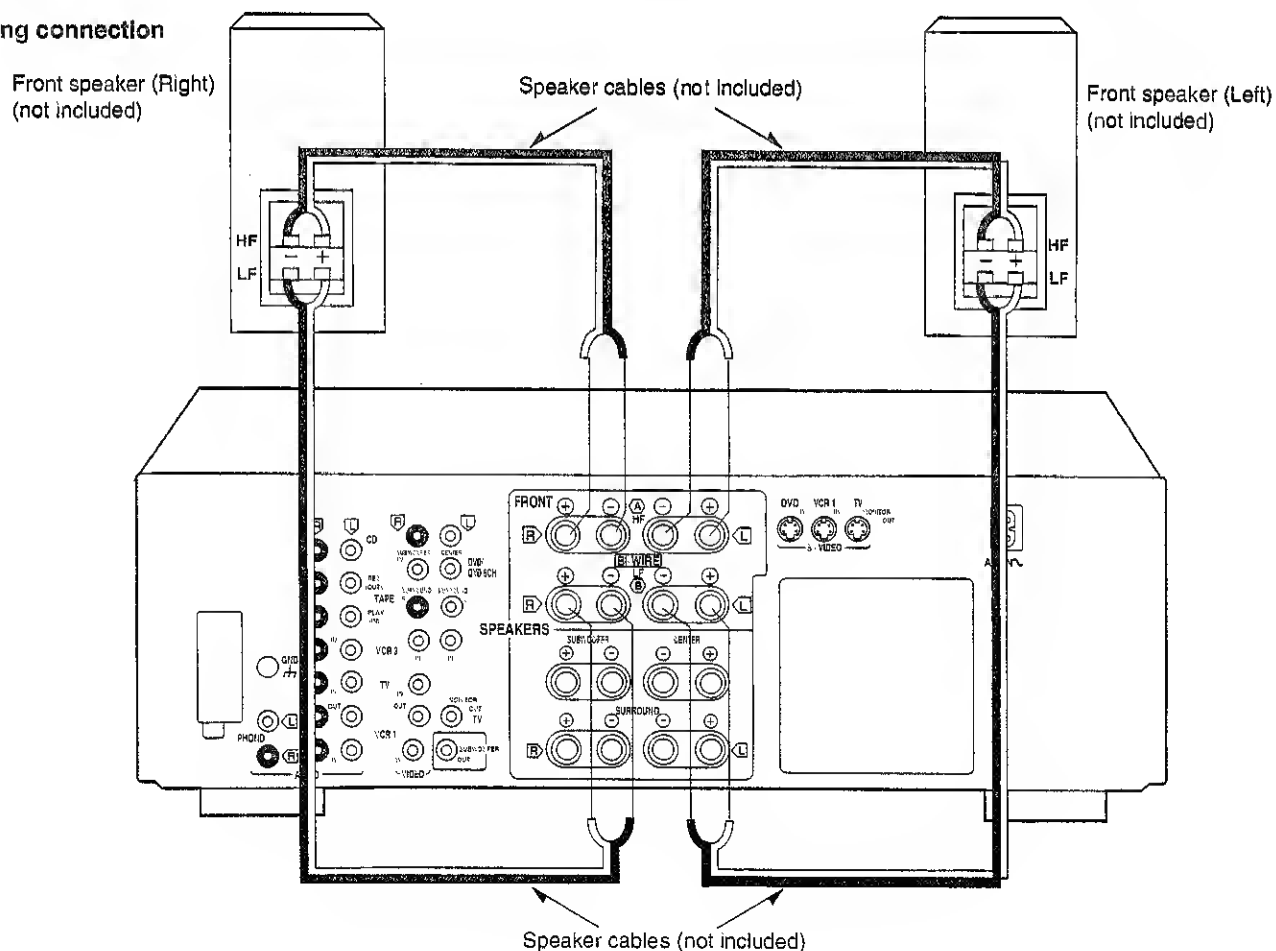
The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.

Note that some experimentation in placement of the subwoofer can yield the smoothest low frequency performance. Placement near a corner can increase the apparent output level, but can result in unnatural bass.

Note

Other connections are possible depending on the speaker system you have. For details, see the operating instructions that came with your speaker system.

Bi-wiring connection

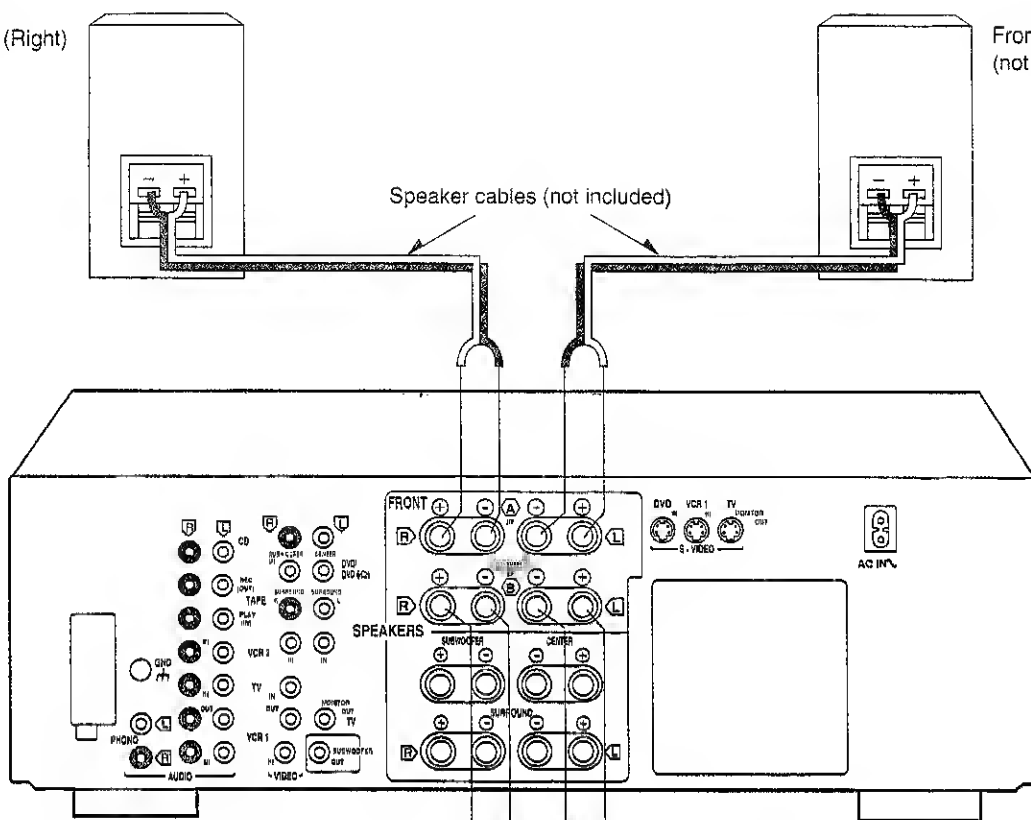


To connect to the "A" terminals

Front speaker (Right)
(not included)

Front speaker (Left)
(not included)

Speaker cables (not included)



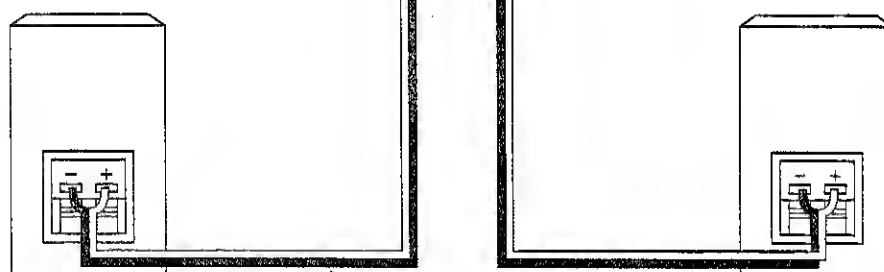
To connect to the "B" terminals

For connection to a second pair of speakers.

Front speaker (Right)
(not included)

Front speaker (Left)
(not included)

Speaker cables (not included)



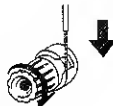
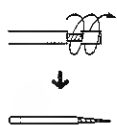
Speaker impedance: A or B: 4–16 Ω
A and B: 8–16 Ω
BI-WIRE: 6–16 Ω

Connecting the speaker cable

1

2

3



NO



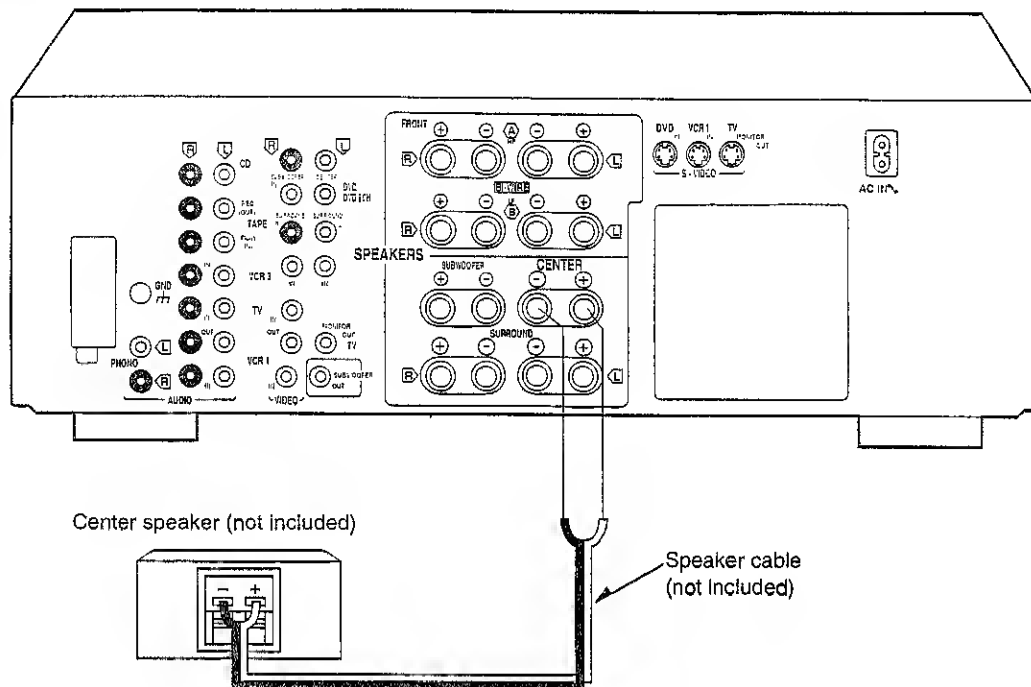
Note

To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.

Before use

Speaker connections

Center speaker

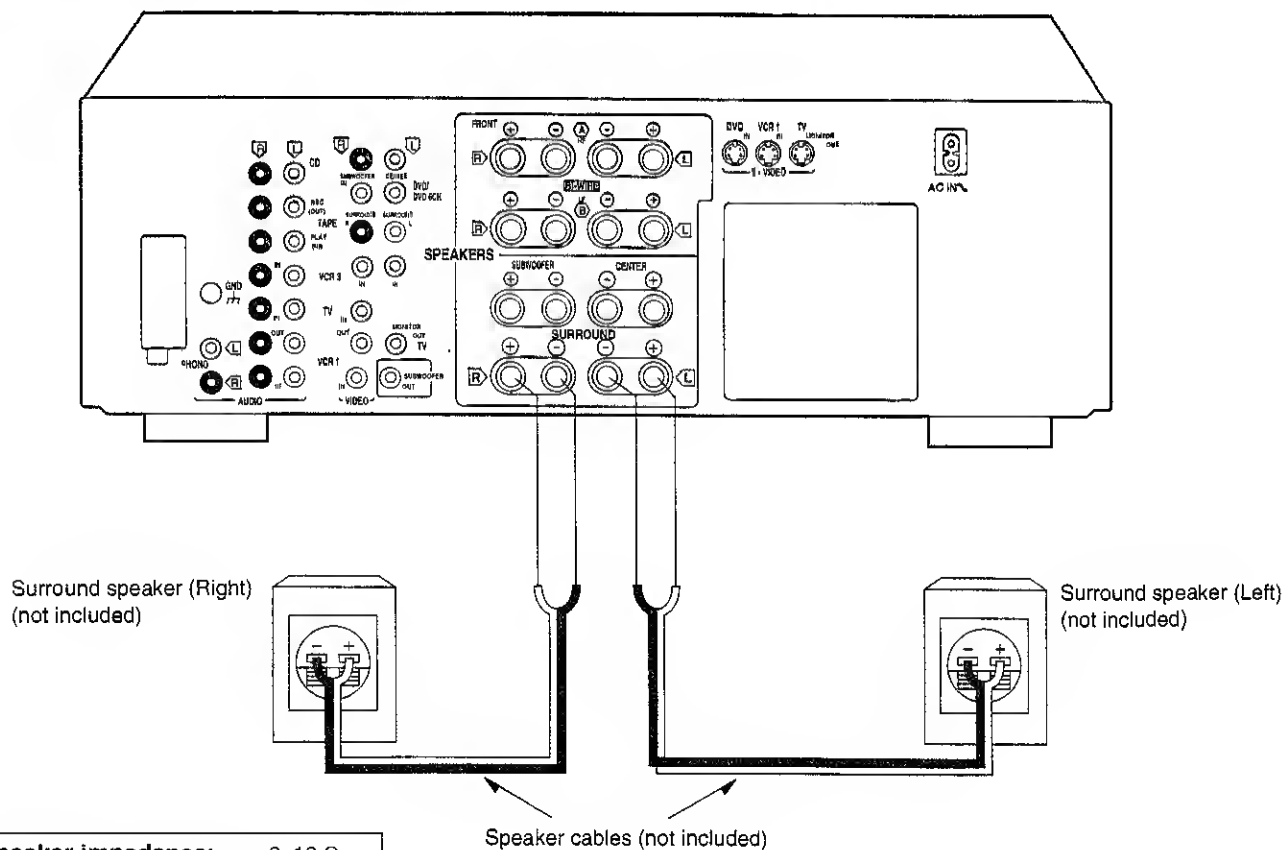


Speaker impedance: 6–16 Ω

Surround speakers

Note

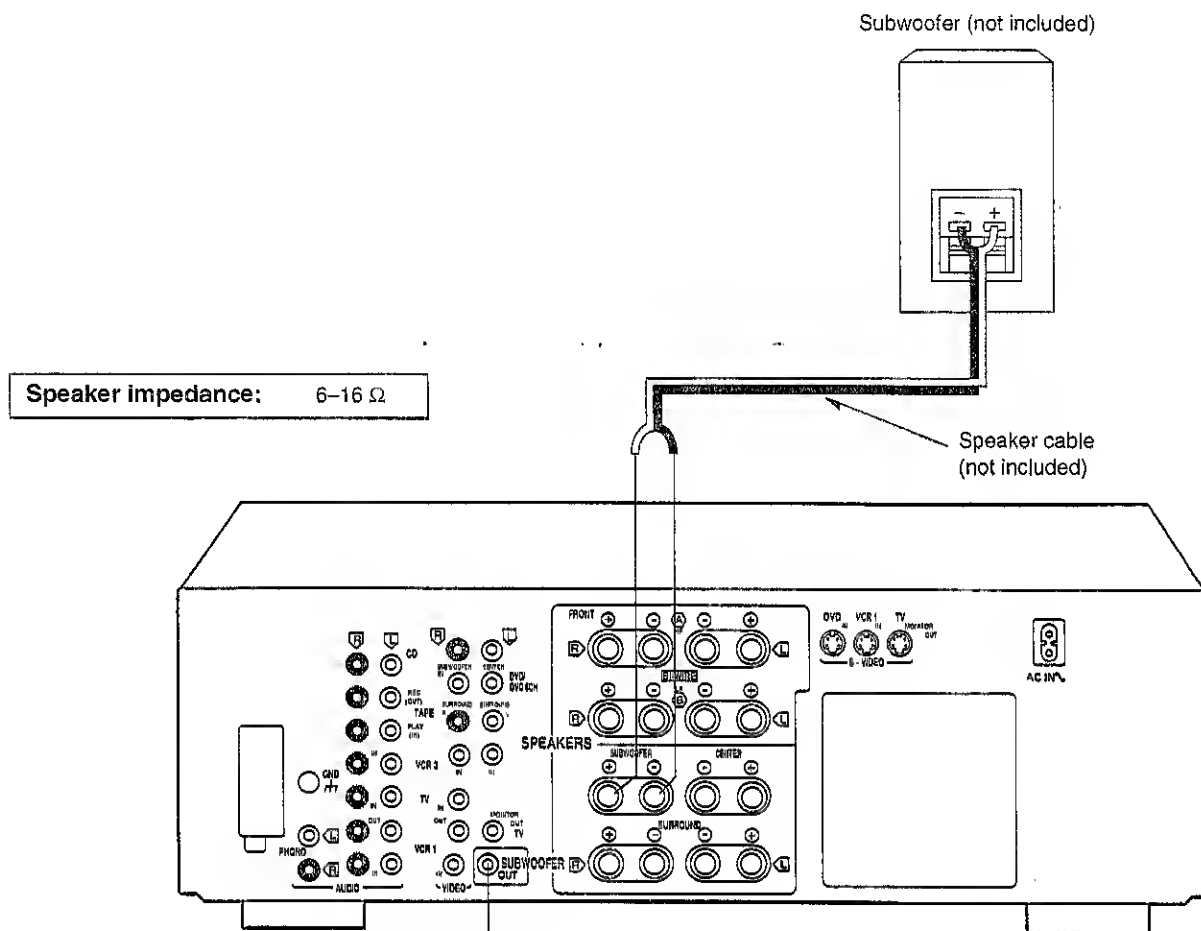
1. Both surround speakers must be connected before sound can be heard from them.
2. Do not connect the surround speakers to the front speaker terminals, as they may be damaged.



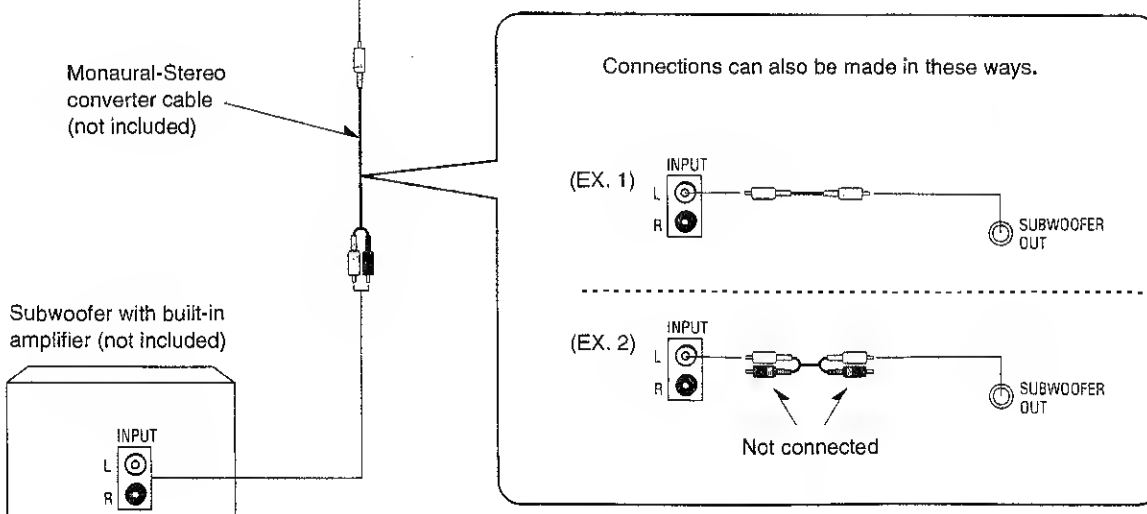
Speaker impedance: 6–16 Ω

Subwoofer

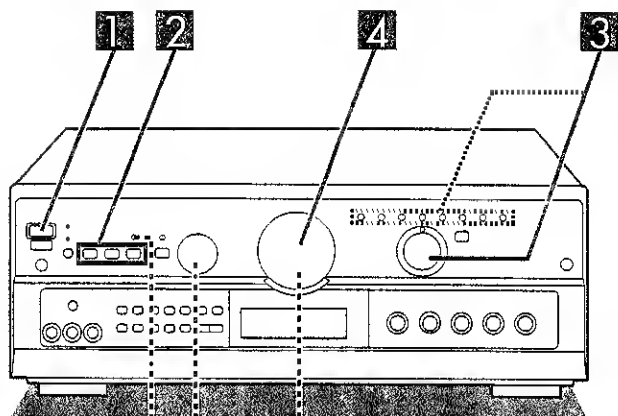
To connect a subwoofer which does not have a built-in amplifier



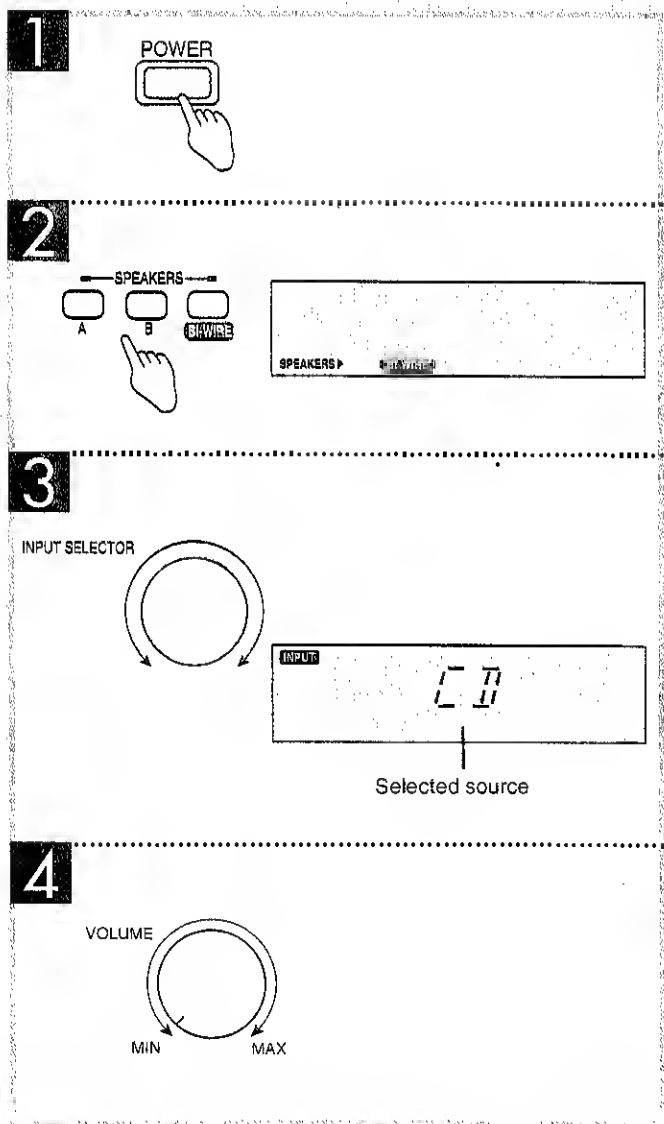
To connect a subwoofer which has a built-in amplifier



Before use



BI-AMP
SUBWOOFER
LEVEL
VOLUME



Basic operations

Before operation, set VOLUME to the "MIN" position.

- 1** Press **POWER**.
- 2** Press **A** and/or **B**, or **BI-WIRE** to select the speaker system(s) to be used.

A, B and **BI-WIRE** refer to the speaker terminals at the rear of the unit.

When **BI-WIRE** is selected, the BI-AMP indicator will illuminate.

If the button is pressed once more, the indicator will switch off and no sound will be heard from the speakers.

Note:

BI-WIRE and A, or **BI-WIRE** and B cannot both be used at the same time.

The BI-AMP indicator goes out if a Dolby Pro Logic or SFC mode is turned on or if the DVD 6CH INPUT mode is selected.

- 3** Turn **INPUT SELECTOR** to select and start the desired source.

(Refer to the appropriate operating instructions for details.)

The Indicator which corresponds to the selected input source will illuminate.

The selected source and "INPUT" will be shown on the display.

VCR 1: To watch video tapes (VCR 1)
TV/VCR 2: To watch TV or video tapes (VCR 2)
VCR 3: To watch video tapes (VCR 3)
DVD: To watch DVD
TAPE: To listen to cassette tapes
CD: To listen to compact discs
TUNER: To listen to radio broadcasts
PHONO: To listen to phono discs

If a Dolby Pro Logic or SFC mode has been selected

After displaying the selected source, the display will then change to show the Dolby Pro Logic or SFC mode and "INPUT" will go out.

If the source chosen was TUNER then the display will change again to show the frequency.

Note:

To watch a video (or DVD) or the TV, set the TV to either the TV mode or VIDEO mode.

For your reference

If you are using VCR and you select TAPE, CD, TUNER, or PHONO, the picture will remain on the screen.

- 4** Adjust the volume level.

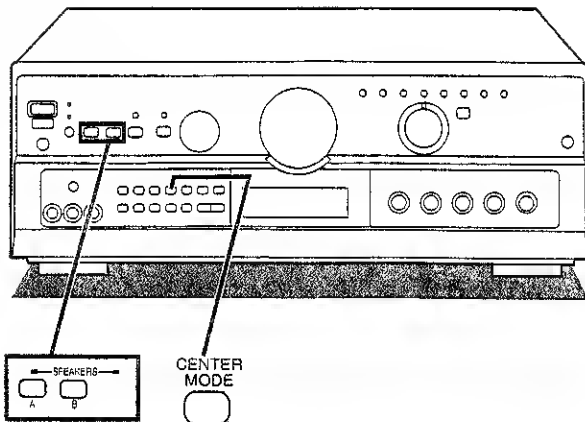
If using a subwoofer, adjust its volume with SUBWOOFER LEVEL.

If the subwoofer isn't being used, be sure to set SUBWOOFER LEVEL to MIN.

After listening is finished

Be sure to reduce the volume level, and switch the power to the standby condition by pressing POWER.

Basic operations



When using speakers under 6 Ω **A**

Press and hold A or B until LOW IMP lights up on the display.

If even one of the speakers being used has an impedance under 6 Ω , press and hold down either button A or button B for 4 seconds or more to set the impedance on the main unit to LOW.

(Press and hold down once again for 4 seconds or more to turn it off.)

Note that when "LOW IMP" is illuminated, speakers A and B cannot both be used at the same time.

To change a speaker:

e.g. To use speaker B, press A (**A** goes out), and then press B to activate speaker B.

To turn off the blue light **E**

Turning off the blue light sometimes improves video viewing in dark or dimly lit rooms.

Press and hold CENTER MODE for 4 seconds.

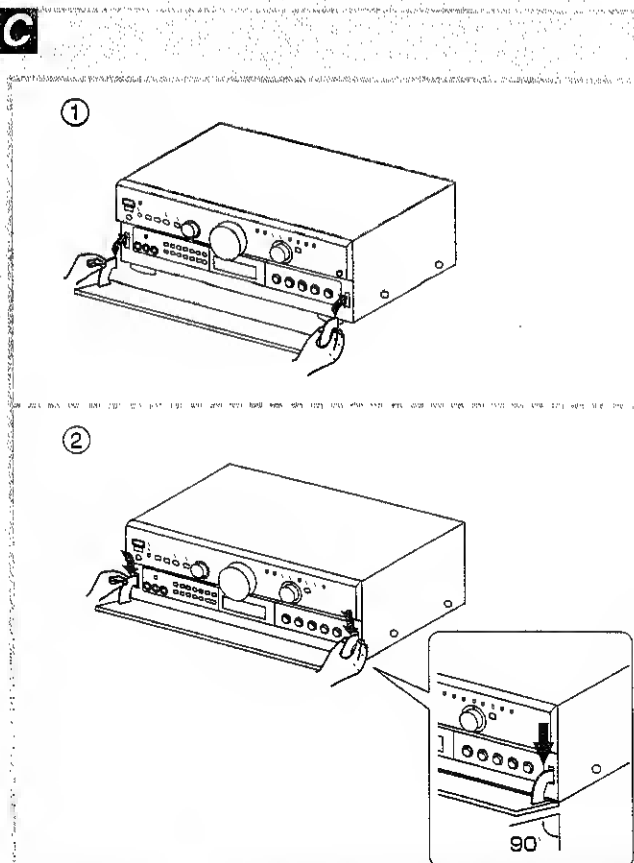
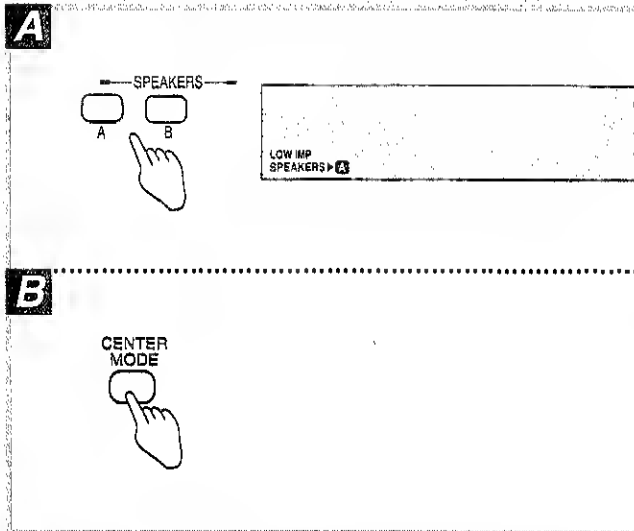
Press and hold it once again to turn the light back on.

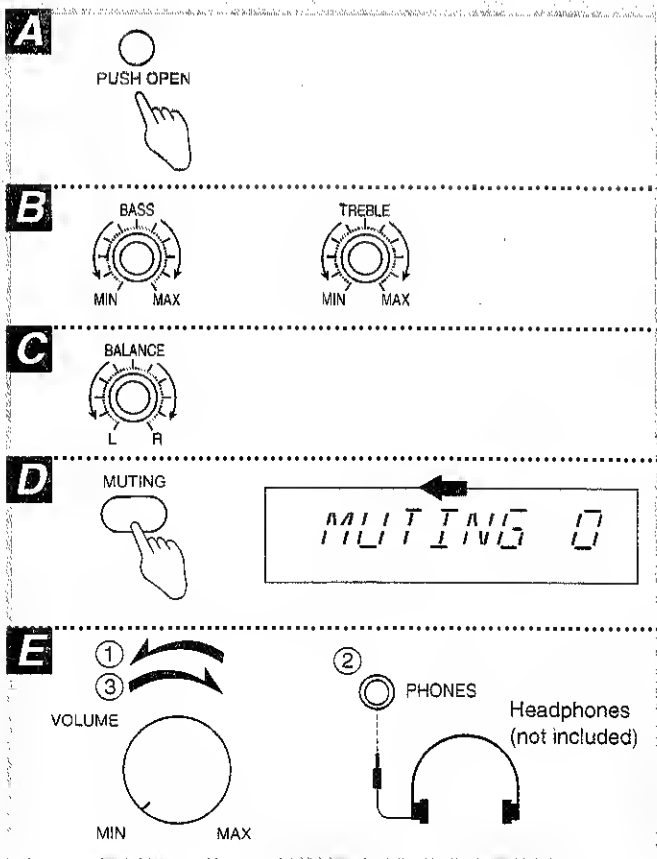
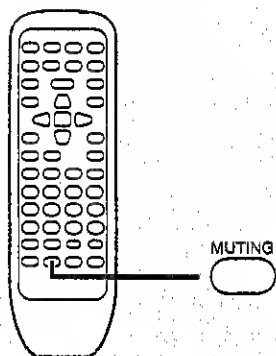
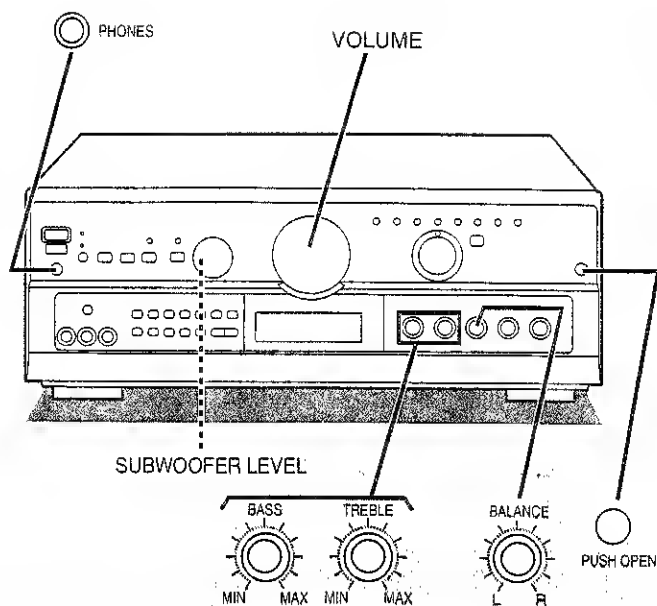
Note

This light comes on when the power is turned on.

If the front cover comes off **G**

- ① Insert the cover as shown in the illustration.
- ② Ensure the cover is parallel to the unit, then press firmly down on the levers until they click into place.
- ③ Check that the cover now moves correctly.
If it does not, remove it and repeat the above procedure.





Basic operations

To open the front cover

A

Press PUSH OPEN.

To adjust the tone sliders

B

Turn BASS to adjust the low frequency sound.
Turn TREBLE to adjust the high frequency sound.

To adjust the sound balance

C

Turn BALANCE to adjust the left/right sound balance.

To mute the sound level

D

by remote control only

Press MUTING.

The message "MUTING ON NOW" runs repeatedly from right to left across the display as long as the muting function is on.

Press once again to return to the previous volume level.

Note

When the receiver is turned off, the muting operation will be automatically cancelled.

To listen through headphones

E

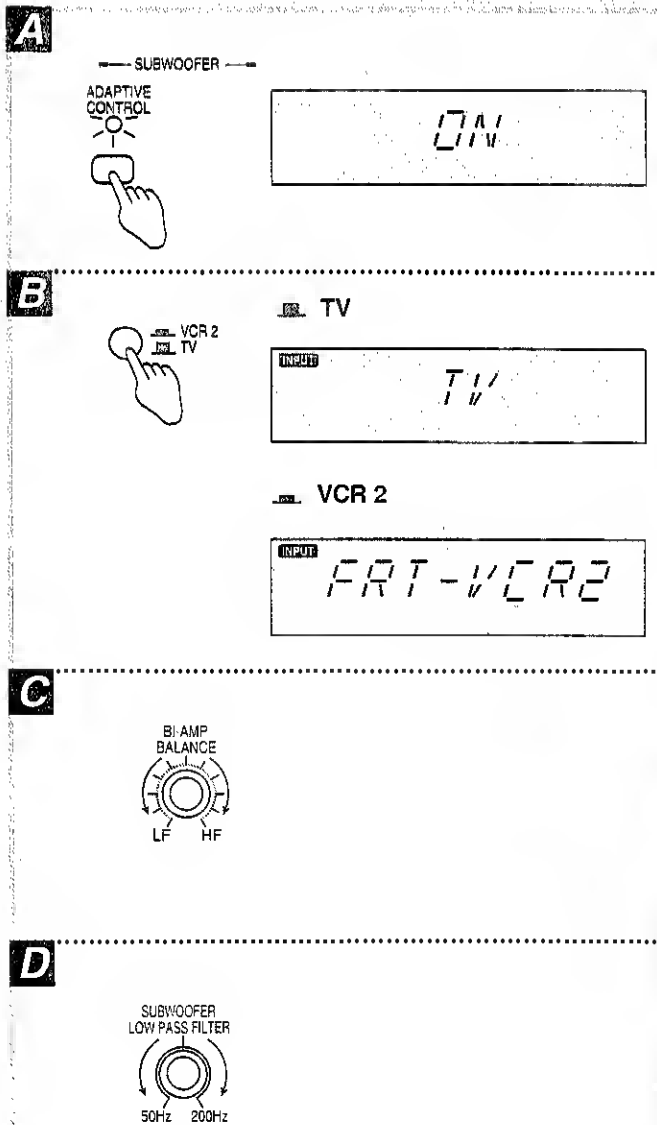
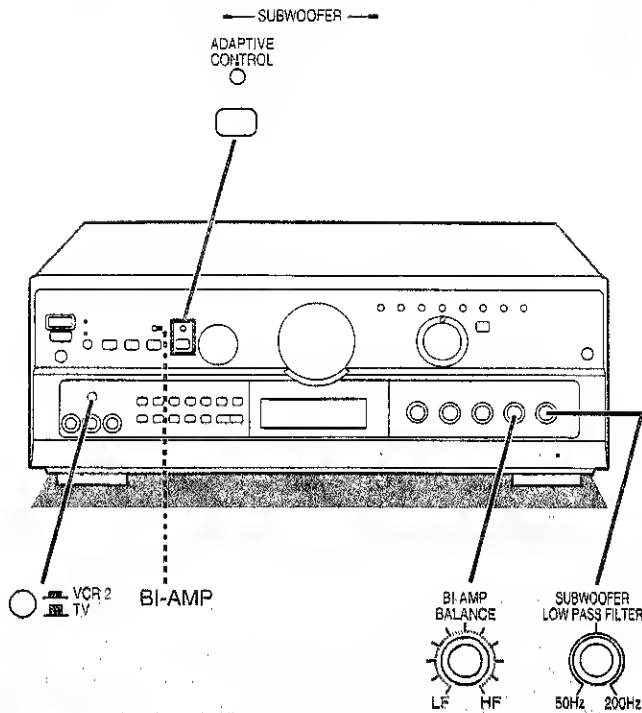
- 1 Reduce the volume level.
- 2 Connect the headphones.
Plug type: 6.3 mm stereo
- 3 Adjust the volume level.

If you do not want sound from the speakers, press the SPEAKERS button(s) and check the speaker indicator(s) goes out.
If a subwoofer is connected to your system, silence it by turning the SUBWOOFER LEVEL control on the receiver to MIN.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

Basic operations



To compensate when the volume is low

This button balances low volume sounds by boosting bass sound pressure of the front speakers and subwoofer.

This function allows you to enjoy balanced sounds even if the volume is low.

Press SUBWOOFER ADAPTIVE CONTROL.

The message "ON" will appear on the display for 2 seconds.

SUBWOOFER ADAPTIVE CONTROL indicator will light up.

To return to the previous condition, press once again.

The message "OFF" will appear on the display for 2 seconds and the indicator turns off.

When using the VCR 2 terminals (front side)

This button can be used only when TV/VCR 2 is selected as the input source.

The TV/VCR 2 input select button works for both TV input and input from the source connected to the front side "VCR 2" terminals. (See page 7.)

Set "TV" or "VCR 2" position.

To adjust the high and low frequency output of the front

Only when BI-AMP is ON

Turn BI-AMP BALANCE to adjust the LF/HF balance.

This adjusts the high and low frequency output of bi-wired front speakers.

The setting depends on the speakers being used.

Adjust the balance to suit your room's acoustics and the features of the speakers.

When BI-AMP is ON

"BI-AMP" will illuminate.

BI-AMP makes use of the special characteristics of bi-wiring to reproduce high quality stereo sound.

Note

BI-AMP will turn off and the indicator will go out in the following cases:

- If any of the Dolby Pro Logic or SFC modes are turned on.
- If DVD 6CH INPUT is selected.

To adjust the subwoofer output of the subwoofer

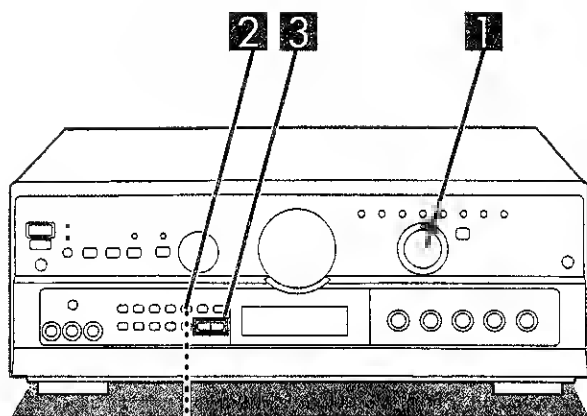
Only when a subwoofer is connected

Turn SUBWOOFER LOW PASS FILTER to select a suitable frequency.

The setting depends on the room's acoustics, the peculiarities of the subwoofer, and the interaction of the subwoofer and the front speakers.

Note

Adjustments can not be made when DVD 6CH INPUT has been selected.



-FM MODE

1 INPUT SELECTOR

TUNER

2

- BAND FM MODE

FM 107.90 MHz

Selected band

3

TUNING

TUNED STEREO FM 88.10 MHz

Listening to radio broadcasts

Sequential tuning

Use the tuning buttons to tune-in radio stations.

- 1** Turn INPUT SELECTOR to select TUNER.
- 2** Press -BAND to select "FM" or "AM".
- 3** Press TUNING (V) or (^) to tune to the desired frequency.

"TUNED" lights up when tuned.

"STEREO" lights up when an FM stereo broadcast is received.

To make an automatic search for stations

If TUNING(V) or (^) is held down for an instant until the frequency begins to scroll, the broadcast stations are tuned in automatically when one is found.

Note

Tuning may stop automatically if any jamming is encountered.

If noise is excessive in the FM stereo mode

Press and hold -FM MODE for 2 seconds.

("STEREO" will go out, and "MONO" will light up)

The broadcast will be monaural, but noise will be reduced.

If the button is pressed and held for 2 seconds once more, the stereo mode will be resumed.

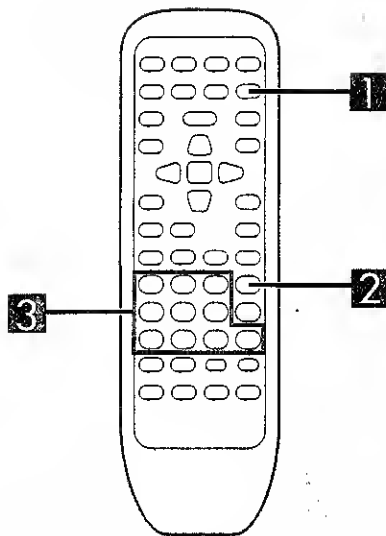
To change the AM frequency step

Press and hold -BAND for about 3 seconds when AM band is selected.

(The frequency step changes to 10 kHz per step.)

To return to the previous step, press and hold -BAND for about 3 seconds again.

Listening to radio broadcasts



Direct tuning

by remote control only

Specify the frequency using the numeric buttons on the remote control transmitter to directly tune to the desired station.

1 Press TUNER/BAND.

This will set the remote control to operate the tuner. The selector on the receiver will change to TUNER. Each time the button is pressed, the band will change as follows,
FM \rightleftharpoons AM

2 Press DIRECT TUNING/DISC ENTER.

3 While cursor display is flashing (approx. 10 seconds) Press the appropriate numeric buttons to enter the frequency.

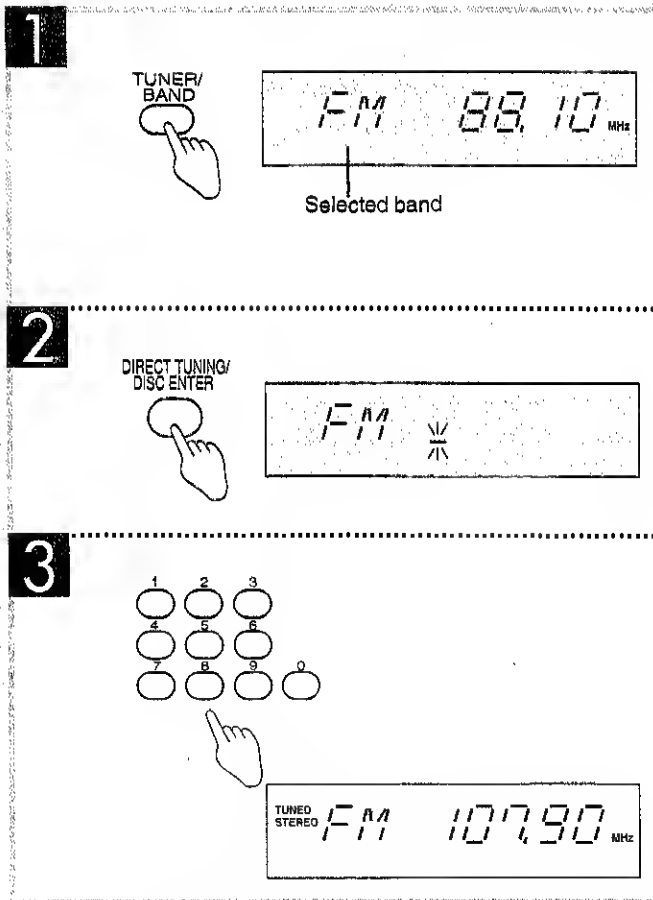
If the desired FM frequency is 107.90 MHz, press

1 \rightarrow 0 \rightarrow 7 \rightarrow 9 \rightarrow 0

If the frequency has been input correctly, the displayed frequency will blink once.

Note

1. If no button is pressed while the cursor display is flashing, the display will return to the frequency which is currently being received. To re-specify the frequency, repeat the procedure from step 2.
2. If the frequency has not been input correctly, "ERROR" will be displayed. In this case, re-enter the frequency.



Preset tuning

Presetting radio stations into the memory channels of this unit makes selecting stations simple.

A total of 30 FM and AM stations can be preset.

Please remember this

If a new broadcast station is preset into a channel, the setting for the broadcast station which was previously entered in that channel will be automatically erased.

Automatic memory presetting

Automatic memory presetting allows this unit to automatically search for broadcast stations and then preset them into memory. With this method, the channels that can be preset into the memory are set as follows for different bands.

When FM stations are preset,

For FM stations 1-30

When FM and AM stations are preset,

For FM stations 1-20

For AM stations 21-30

- 1** Set to the frequency from which you want to start automatic memory presetting.
(See page 20, 21.)

- 2** Press **MEMORY** until the frequency begins to change.
(Automatic memory presetting will start.)
During automatic memory presetting, the memory indicator will flash while the frequency scrolls.

To stop, press **MEMORY** once again.

When a broadcast station is preset **2**

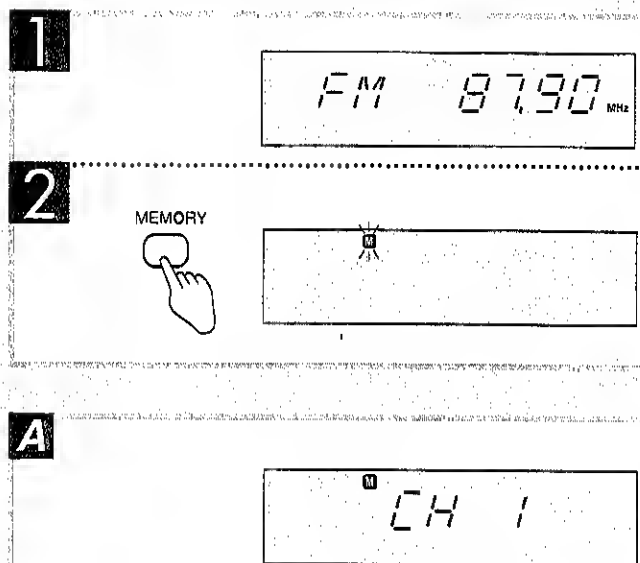
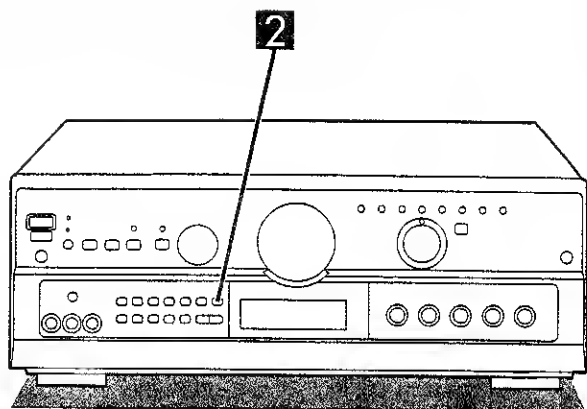
The memory indicator and the preset channel number will be displayed for approximately 1 second.

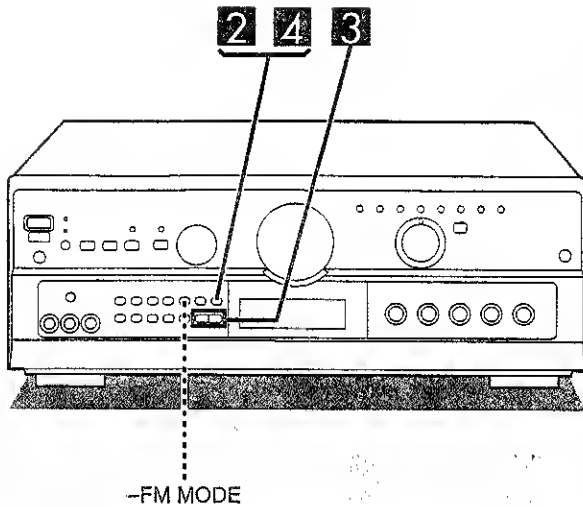
When presetting is completed

The last broadcast station to be preset will be displayed.

Note:

Frequencies may not be preset correctly in cases where the broadcast waves are too strong or too weak. In such cases, carry out presetting manually. (See page 23.)





Manual memory presetting

The desired stations can be preset into the desired channels by the user.

- 1 Set to the desired frequency.**
(See page 20, 21.)

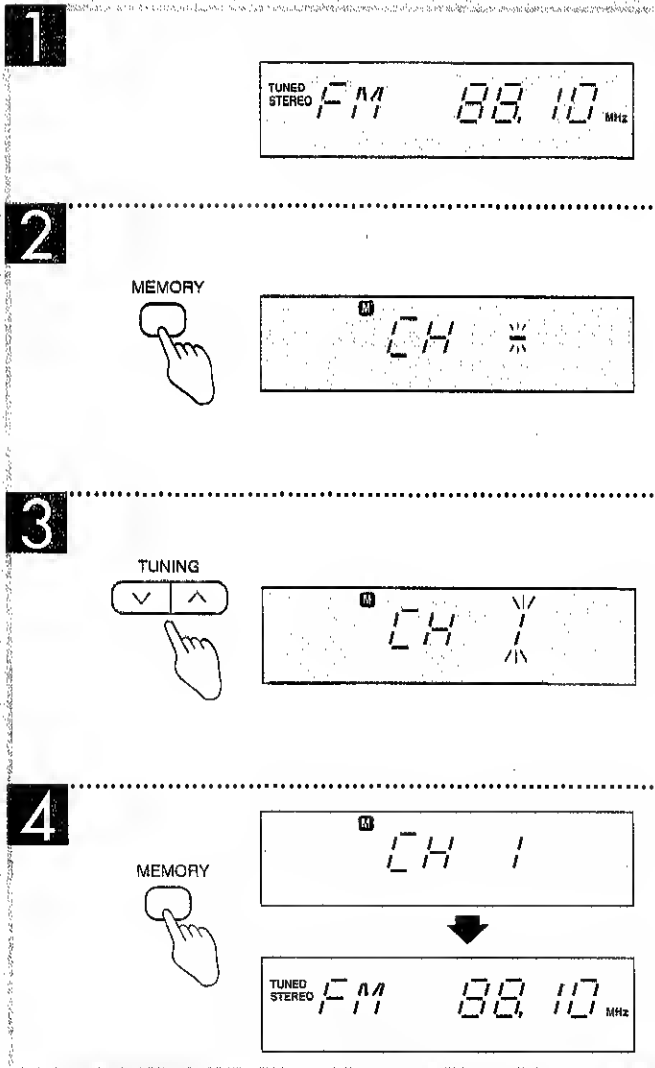
If interference or static is keeping you from enjoying an FM broadcast, press and hold -FM MODE and change to monaural.
You can preset the station in monaural just as in stereo.

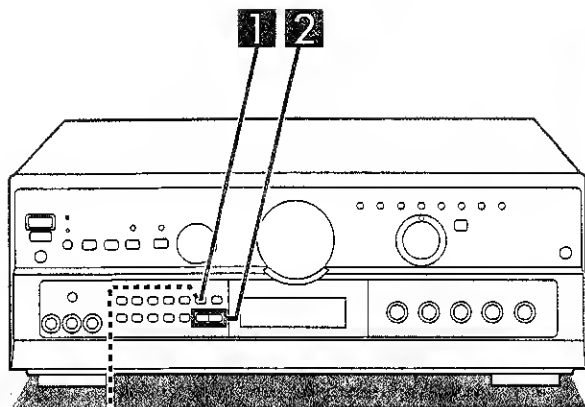
- 2 Press MEMORY.**
To cancel the memory function, press MEMORY again.

- 3 Press TUNING (V) or (^) to select the desired channel.**
Holding the buttons down lets you scroll through channels faster.

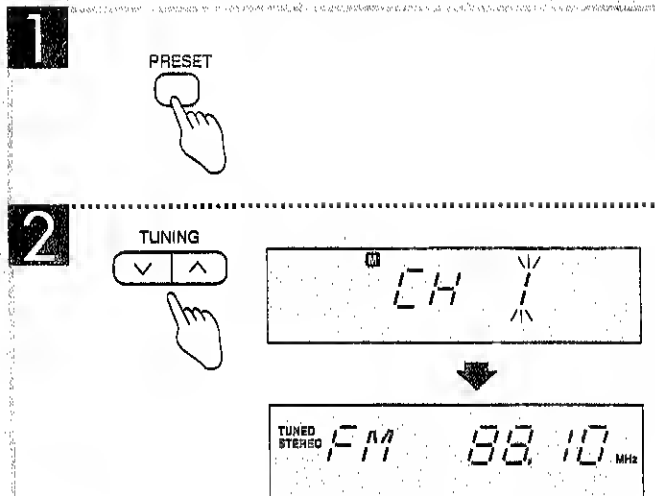
- 4 Press MEMORY.**
The channel will blink on the display.

To continue presetting
Repeat steps 1 through 4.





PRESET



Listening to radio broadcasts

To listen to preset channels

- 1 Press PRESET.
- 2 Press TUNING (V) or (^).

Holding down the buttons lets you scroll through channels faster.

The channel number will be changed for approximately 5 seconds.

Select the desired channel number during that time.

After 5 seconds, the display will change from the channel number to the frequency.

Note

If you press PRESET while the channel number is displayed, the display will change to the frequency.

To confirm the channel number of the broadcast station being received

Press PRESET.
(The channel number will be displayed for approximately 5 second.)

Note

The channel number is not displayed if you change the frequency or FM mode setting.

For your reference

Even if the power cord is disconnected from the household AC outlet, the memory will retain its contents for approximately one month.

If frequency presettings are accidentally erased

Program the presettings once again.

The power cord should remain connected for one hour or more for the memory back-up to be effective.

Enjoying sound with DOLBY PRO LOGIC

Dolby Pro Logic lets you enjoy movie software (video tapes and DVDs) in your own home with the same powerful stereophonic effect found in movie theaters. This unit has two Dolby Pro Logic modes: SURROUND and 3 STEREO.

SURROUND

By reproducing the feeling of depth and movement of sound, video software or compact discs recorded with Dolby Surround provide the listener with a feeling of presence like that of a movie theater.

3 STEREO

You can enjoy audio/video sources with clear sound, more presence and a good feeling of orientation. 3 STEREO can be used with stereo sources not encoded with Dolby Surround.

Note

BI-AMP and Dolby Pro Logic cannot be used at the same time. If you are using BI-AMP and you select Dolby Pro Logic, BI-AMP will turn OFF and the BI-AMP indicator will go out.

Setting the center mode and adjusting speaker output level

Note

- When ready to adjust speakers output level, situate yourself where you would normally be listening.
- The subwoofer does not put out a test signal. Ensure no sound comes from the subwoofer during the test by turning SUBWOOFER LEVEL to MIN.
- First turn ON the speakers with the speaker select button on the receiver.
- If front speaker volume is unbalanced, adjust the balance with the BALANCE control.

- 1 Press  PRO LOGIC to select SURROUND mode.

Note

Select 3 STEREO if surround speakers have not been connected.

- 2 Press CENTER MODE to select the correct center mode.

When the button is pressed, the current center mode is displayed. Pressing it again changes the center mode.

NORMAL

When the center speaker is smaller than the front speakers.

WIDEBAND

When the center speaker is the same size as or larger than the front speakers.

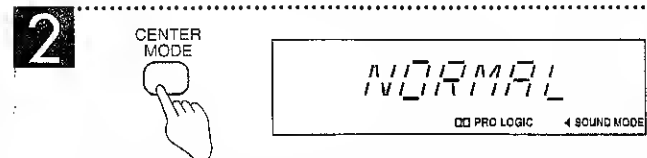
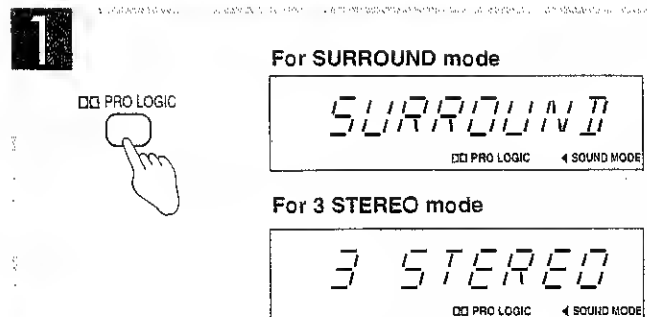
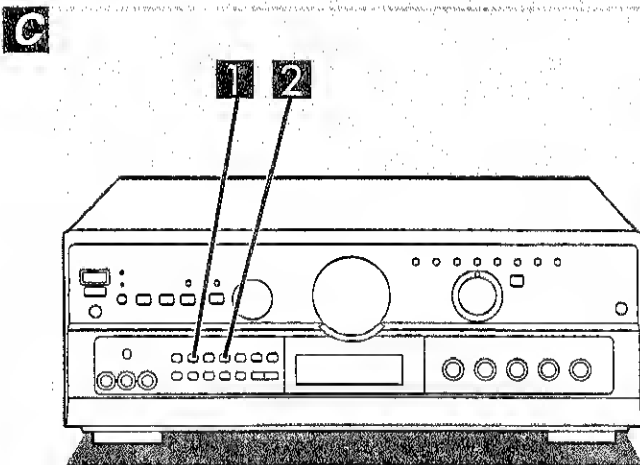
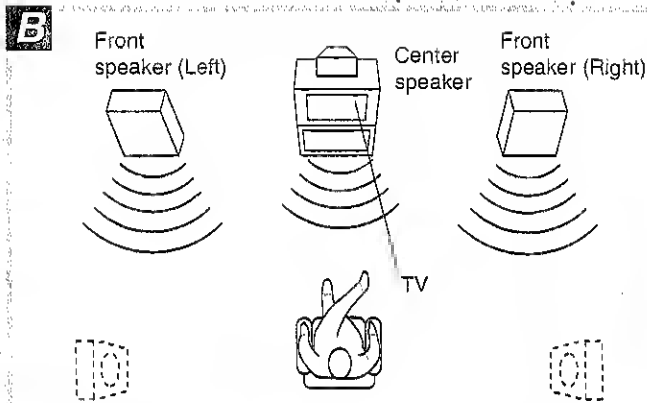
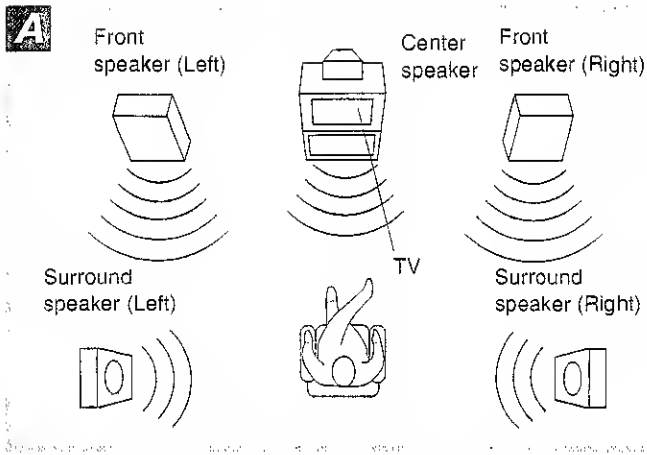
PHANTOM **SURROUND mode only**

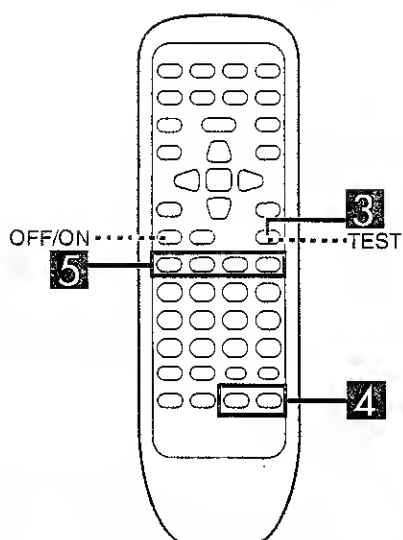
When no center speaker is connected.

Note

In the PHANTOM mode, the sound which would have been sent to the center speaker will be divided equally between both the left and right front speakers.

(Continued on next page)





3 by remote control only

Press TEST to output a test signal.

The speaker outputting the test signal is displayed while the test is running.

L : Front speaker (Left)
C : Center speaker
R : Front speaker (Right)
S : Surround speakers

For SURROUND mode

L — C — R — S

In the PHANTOM mode, the center speaker is OFF, so there is no center test signal and "C" is not displayed.

For 3 STEREO mode

L — C — R

4 by remote control

Press VOL (–) or (+) to set the volume level normally used for enjoying the source

The following steps are for setting the output level of the front speakers and the center/surround speakers to the same listening level.

5 by remote control only

Press CENTER (–) or (+), or SURROUND (–) or (+) to adjust the output level.

Adjust the output level of each speaker from the listening position until they are all identical.

–: Decrease the output level.

+: Increase the output level.

Output level can be varied within a range of –12 dB to +12 dB with front speaker output level serving as the zero point.

Note

1. During step 5 above the test signal sequence is interrupted and the signal will only come from the selected speaker. The sequence will resume when adjustments are stopped.
2. Remember you cannot adjust the output level of the surround speakers if you selected the 3 STEREO mode in step 1.

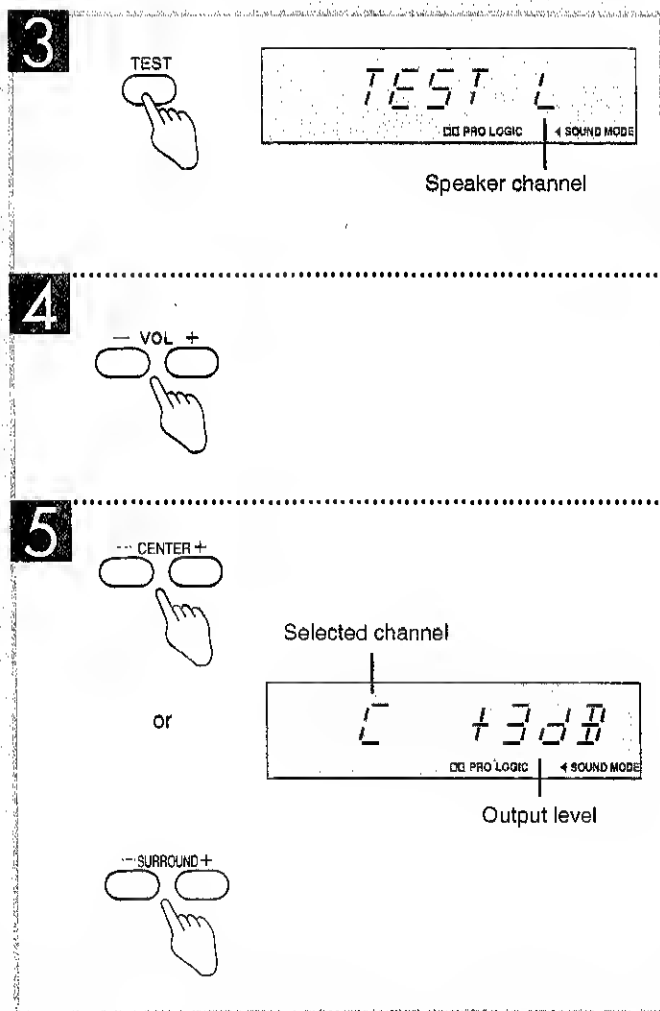
To stop the test signal

Press TEST.

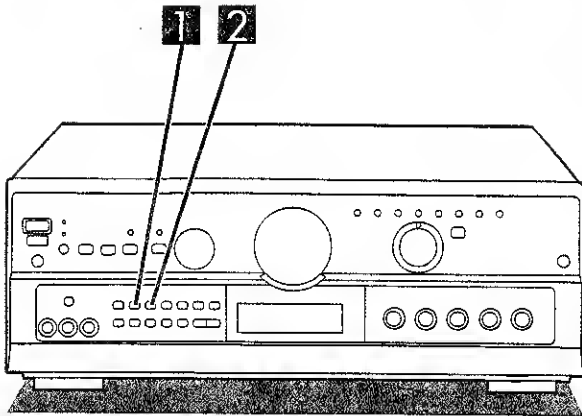
To turn off the Dolby Pro Logic systems

Press OFF/ON.

Press once again to turn it on.



Enjoying sound with DOLBY PRO LOGIC



Adjusting the delay time

When enjoying with SURROUND only.

Adjust the sound from the surround speakers until the proper effect is produced.

1 Press **PRO LOGIC** to select the **SURROUND** mode.

2 Press **DELAY TIME** to set the time.

When the button is pressed, the current delay time is displayed.

Pressing it again changes the delay time.

Each time the button is pressed, the delay time will increase by 5 ms within a range of 15 ms to 30 ms.

The standard setting is 20 ms.

To calculate the delay time **A**

D₁: Distance from front speakers

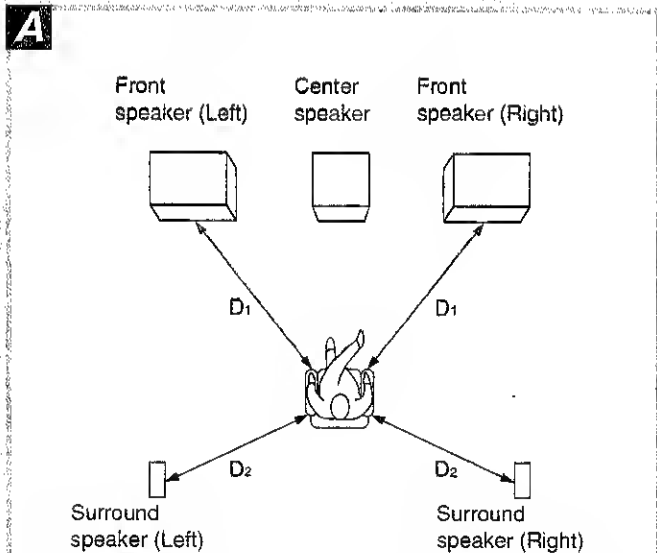
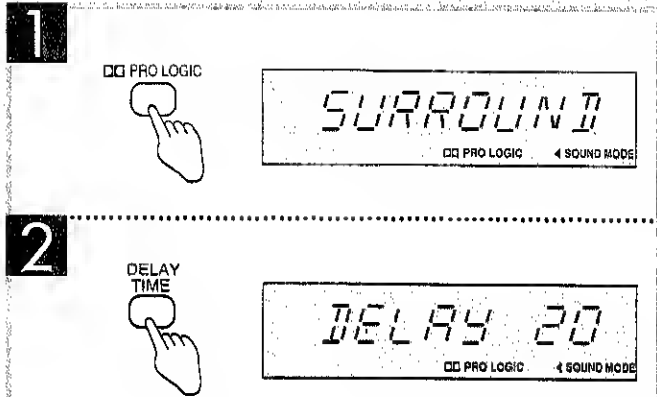
D₂: Distance from surround speakers

• If D₁ is equal to or less than D₂

Set to 15ms.

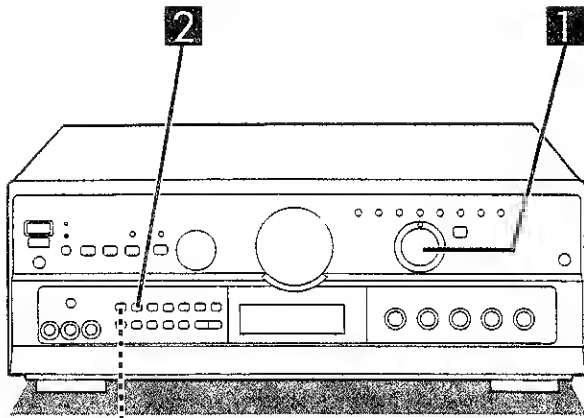
• If D₂ is less than D₁

Start at 15ms and increase by 5 ms for every 1.5 m of difference between D₁ and D₂.



Enjoying sound with DOLBY PRO LOGIC

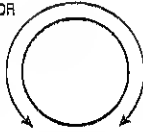
Enjoying SURROUND and STEREO



OFF/ON

1

INPUT SELECTOR



2

PRO LOGIC



1 Turn **INPUT SELECTOR** to select and start the desired source.

2 Press **PRO LOGIC** to turn on the Dolby Pro Logic system and select the desired mode.

When the button is pressed, the Dolby Pro Logic mode is displayed.

Pressing it again changes the Dolby Pro Logic mode.

Note

When employing **SURROUND**, use software recorded in Dolby Surround.

For your reference

You can set the Dolby Pro Logic mode for each source. Each source will retain the selected mode.

To turn off the Dolby Pro Logic systems

Press **OFF/ON**.

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Enjoying sound with SFC

SFC is the abbreviation of Sound Field Control.

The SFC function gives presence and spread thereby enhancing and enriching the music or movie.

Read the following explanations in order to better understand how to make your selection.

HALL

This mode imparts a reflection and spread which will make you feel as if you are in a large concert hall.

CLUB

Like a jazz club, this mode provides an exciting and intimate atmosphere. It simulates the sound field of a relatively small room having a low ceiling and hard reflective surfaces, for a "live" sound with enhanced presence to bring the performers up close.

LIVE

Primarily for vocal pieces, this mode adds gloss to the vocals and you'll feel as though you were hearing a live stage performance.

THEATER

You can clearly perceive the directions and source of the movie. Real ambience of sound can also be recreated naturally using this mode.

THEATER mode can be used with stereo sources not encoded with DOLBY SURROUND.

Note:

When using Dolby Surround encoded materials, select DOLBY PRO LOGIC SURROUND.

SIMULATED (SIM SURR)

Choose this mode if little or no sound will be heard from the surround speakers.

You can feel as if you were in a more expanded space adding to the actual sound from the source.

This mode also adds effect to monaural sources by outputting sound from surround speakers.

Note:

You can adjust center speaker volume only in the theater mode. The center speaker is not used in the hall, and simulated modes.

1 Turn INPUT SELECTOR to select and start the desired source.

2 Select the desired SFC mode.

For your reference

You can set the SFC mode for each source. Each source will retain the selected mode.

To turn off the SFC function

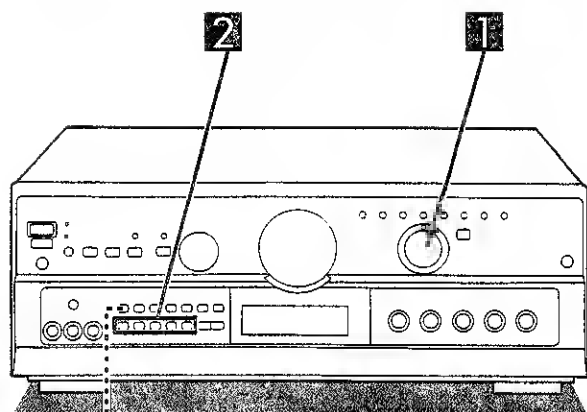
Press OFF/ON.

Press once again to turn it on.

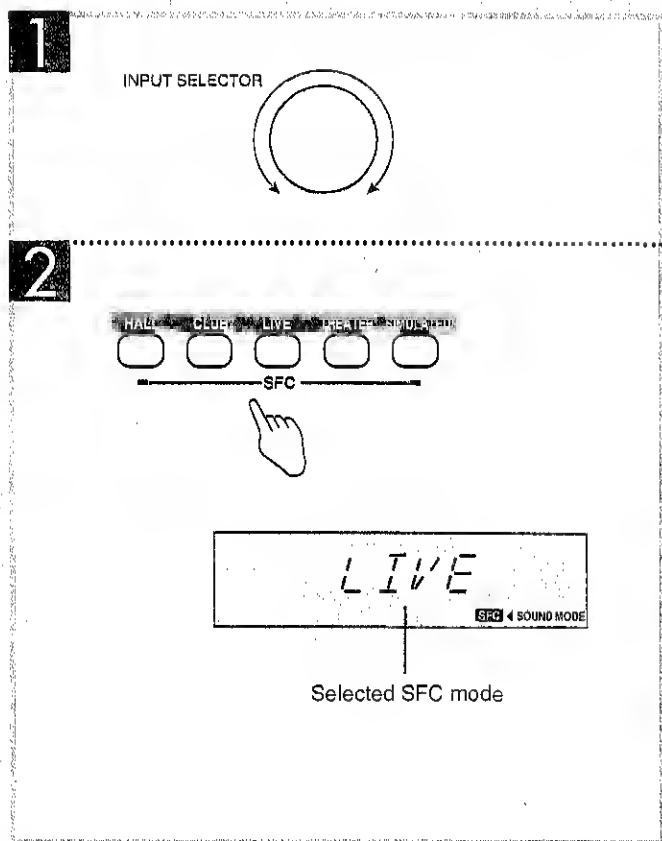
Note:

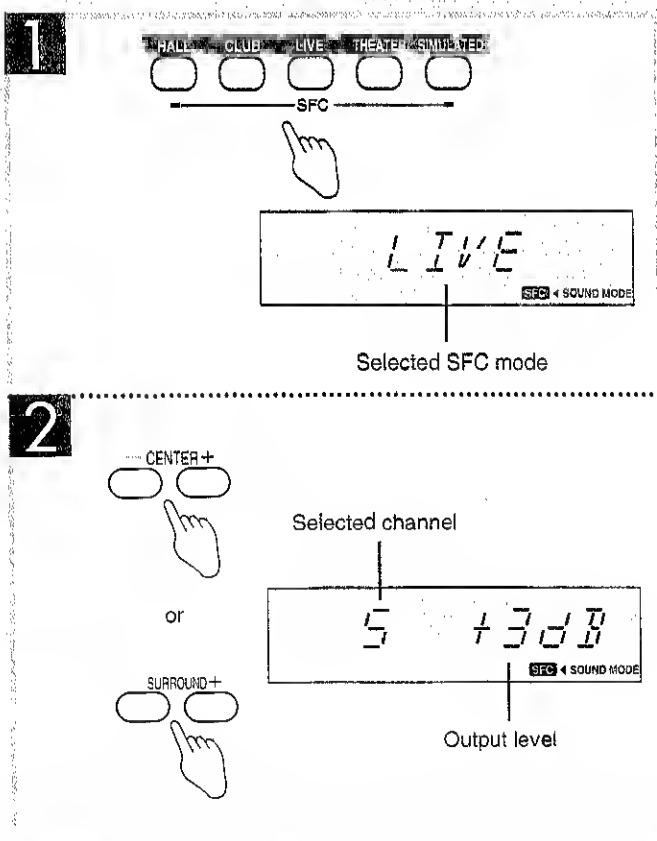
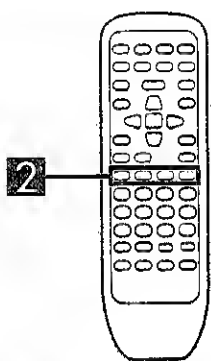
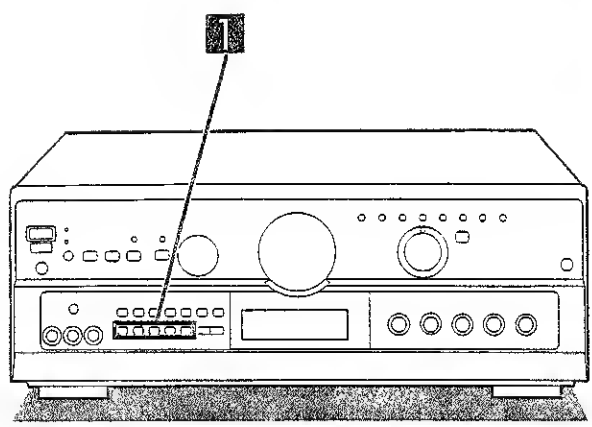
BI-AMP and the SFC modes cannot be used at the same time.

If you are using BI-AMP and you select an SFC mode, BI-AMP will turn OFF and the BI-AMP indicator will go out.



OFF/ON





Enjoying sound with SFC

Adjusting field of sound

With this unit, you can adjust speaker volume.
Adjust the field of sound while listening to a source.

To adjust the volume of the center and surround speakers

Note

Center speaker volume can be adjusted only in the THEATER mode.

1 Select the desired SFC mode.

2 by remote control only:

Press CENTER (–) or (+), SURROUND (–) or (+) to adjust the output level.

Enjoying sound with SFC

To adjust the delay time

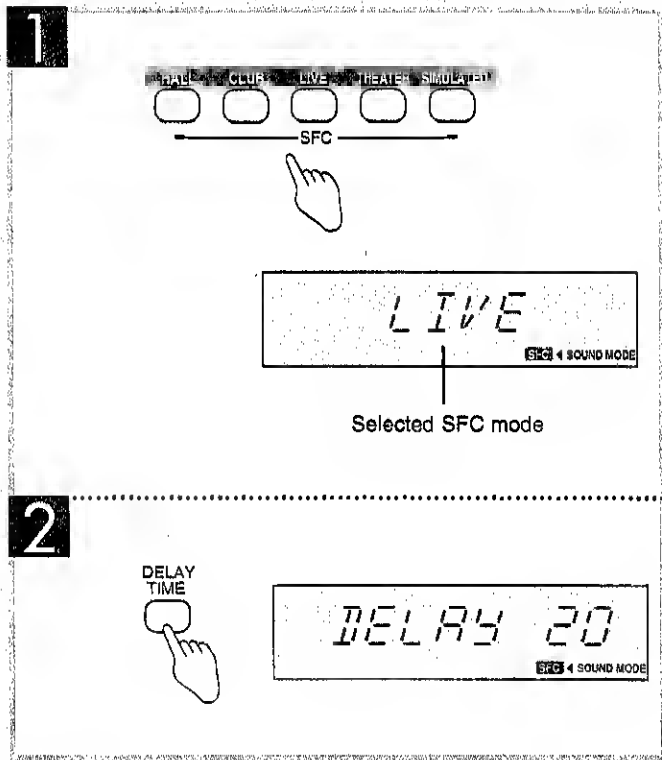
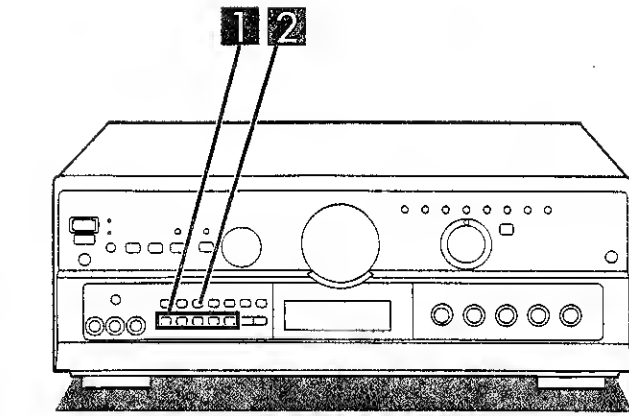
- 1** Select the desired SFC mode.
- 2** Press **DELAY TIME** to set the time.

When the button is pressed, the current delay time is displayed.

Each time the button is pressed, the delay time will change.

The delay time increments are different depending on the SFC mode.
Select a delay time setting to accommodate to your individual needs.

SFC modes	Available delay time setting (ms)
HALL	40, 50, 20, 25, 30
CLUB	15, 20, 25, 30, 0
LIVE	50, 15, 20, 30, 40
THEATER	20, 25, 30, 40, 15
SIMULATED	15, 20, 25, 30, 40



Enjoying sound with 6 channel discrete

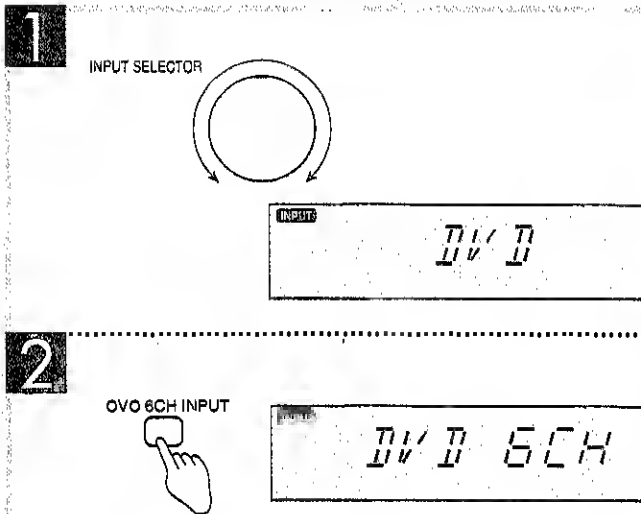
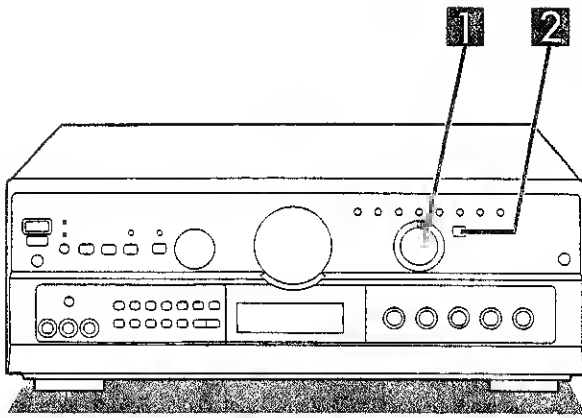
This receiver can playback 6 channel discrete sound. It has terminals for connecting to components with 6 channel discrete output, such as a DVD player.

6 channel discrete output makes playback sound more real by adding depth, movement, position and other characteristics to the field of sound.

It will make you feel as if you were at the movie theater when in your own home.

To enjoy 6 channel discrete output sound

You have to connect a DVD player or other component that has 6 channel discrete output capabilities.



1 Turn INPUT SELECTOR to select DVD.

2 Press DVD 6CH INPUT to select DVD 6CH.
Changes as follows, each time the button is pressed.
DVD 6CH \rightleftharpoons DVD (2CH)

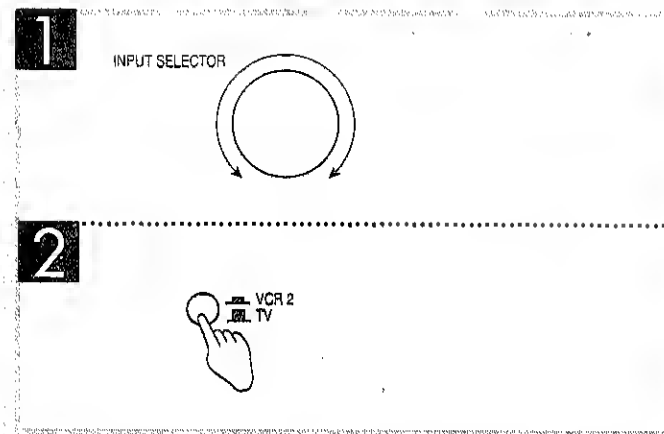
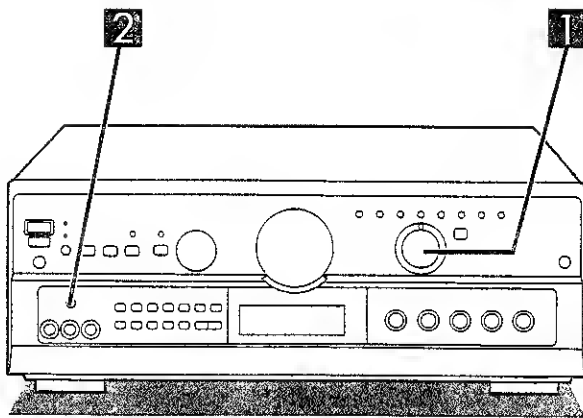
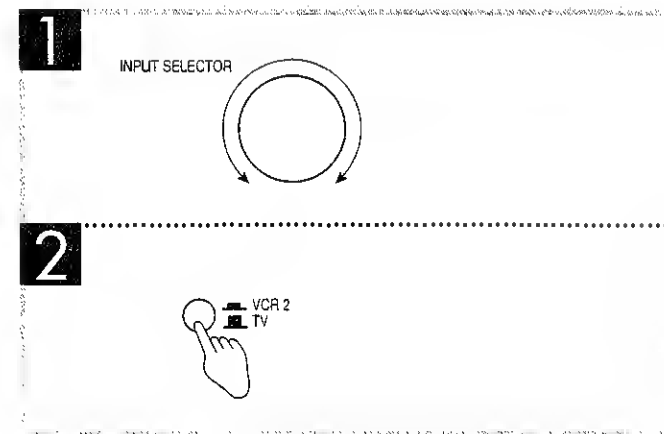
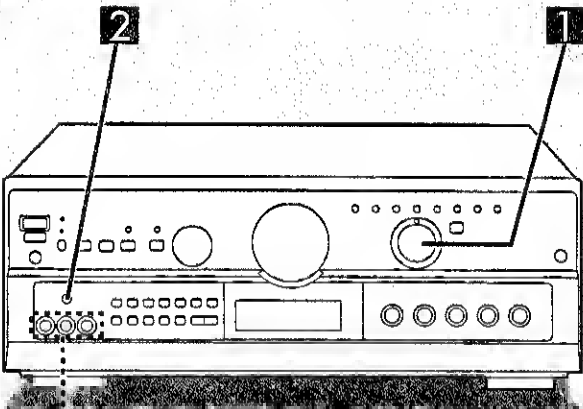
If you press this button while another source (CD, PHONO, etc.) is selected, the receiver switches the source to DVD and engages the DVD 6CH INPUT mode.

3 Start the desired source.
Follow your equipment's operating instructions.

Note

You cannot select Dolby Pro Logic or any of the SFC modes while in the DVD 6CH INPUT mode. If you try, the message "NOT POSSIBLE IN 6CH DISCRETE INPUT" will appear on the display.

BI-AMP and DVD 6CH INPUT cannot be used at the same time. If you are using BI-AMP and you select DVD 6CH INPUT, BI-AMP will turn OFF and the BI-AMP indicator will go out.

A**B**

Making a recording

Note

When you select DVD 6CH INPUT mode, only sound from the front left and right speakers is recorded.

To record all 6 channels

Set the playback mode on your DVD player or decoder to 2 channel (stereo) mode.

For details, see the instruction manual that came with the connected equipment.

Recording on a tape deck

Before recording, prepare the tape deck for recording (recording level adjustment, etc.).

See the tape deck's operating instructions for details.

1 Turn INPUT SELECTOR to select the source to be recorded.
Any source can be selected except TAPE.

2 (only if you select TV/VCR 2 in the above step)
Set "TV" or "VCR 2" position.

3 Begin recording on the tape deck.
Follow your tape deck's operating instructions.

4 Begin the source to be recorded.
Follow your equipment's operating instructions.

Recording on a VCR

You can record only on VCR 1.

Before recording, prepare the VCR 1 (VCR) for recording (recording level adjustment, input selector setting, etc.).

See the VCR's operating instructions for details.

1 Turn INPUT SELECTOR to select the source to be recorded.
Any source can be selected except VCR 1 (VCR) and TAPE.

Note

Recording from the tape deck is not possible.

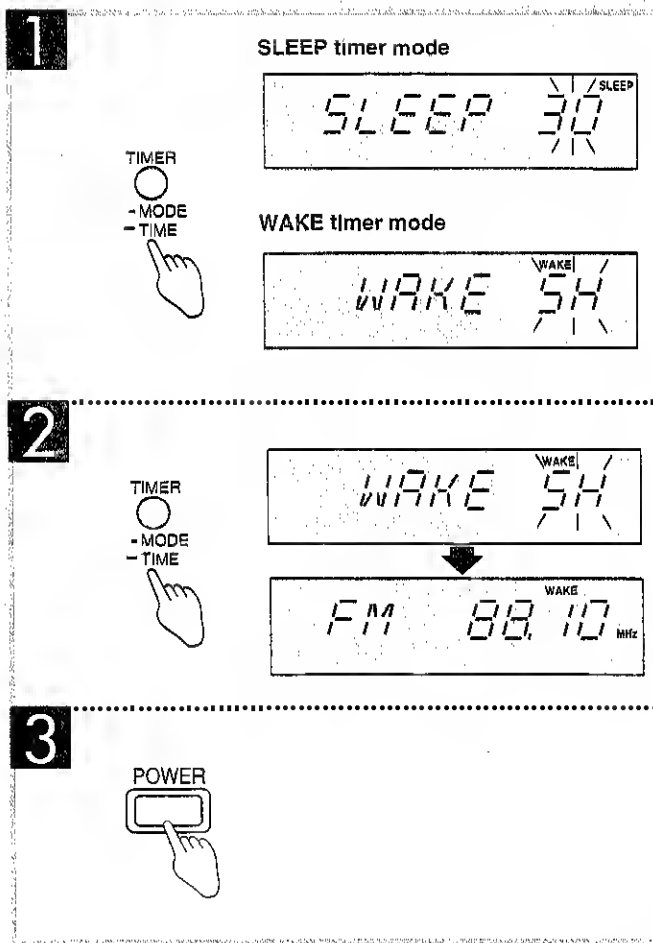
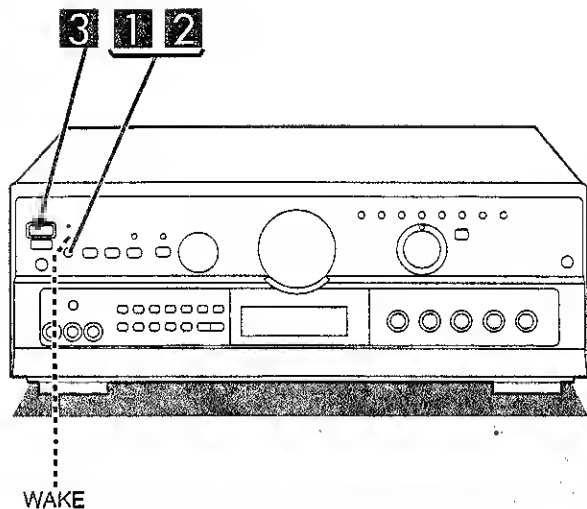
2 (only if you select TV/VCR 2 in the above step)
Set "TV" or "VCR 2" position.

3 Begin recording on the VCR.
Follow your VCR's operating instructions.

4 Begin the source to be recorded.
Follow your equipment's operating instructions.

For your reference

There are VCR 2 terminals at the front of this unit.
It is easier to carry out dubbing from a camcorder if it is connected to the front terminals.



Timer function

There are two timer functions: the sleep timer and the wake timer.

• Sleep timer:

The unit turns off after a set time.
It can be set for 30, 60, or 90 minutes.

• Wake timer:

The unit can be set to turn on a certain number of hours after it is turned off.
It can be set for 5, 7, or 9 hours.

Setting the timer

1

(while listening to the radio)

Press TIMER to select the desired timer mode.

The timer mode changes as follows:

SLEEP — WAKE — OFF

2

(within 5 seconds)

Press TIMER and release when the time you require is displayed.

The display changes as follows:

• In sleep timer mode
30 — 60 — 90 (minutes)

• In wake timer mode
5H — 7H — 9H (hours)

The frequency is displayed again 5 seconds after the setting is completed.

3

Wake timer mode only

Press POWER to turn off the power.

The WAKE indicator lights up.

Checking the remaining time on the sleep timer and the time set for the wake timer

Press TIMER once.

Note

Do not press TIMER again before the remaining time indication goes out.

The setting may change if you do this.

Changing a setting

Repeat steps 1 and 2.

To cancel the timer

Press TIMER until "OFF" is displayed.

"SLEEP" or "WAKE" will go out.

Note

- The timers cannot be used together.
- The sleep timer turns off the receiver, and the wake timer turns on the receiver, but they do not turn off/on any externally connected components.

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Reference pages indicated in black circles. (For example: 18)

Problem	Probable cause(s)	Suggested remedy
While listening to FM broadcasts		
An unusual hissing noise is heard when listening to the broadcast in stereo, but not heard when listening monaurally.	A slight noise may be heard because the method used for modulation of FM stereo broadcasts is different than that used for monaural broadcasts.	<ul style="list-style-type: none"> Try reducing the treble sound by using the treble control. (18) Try changing the location, height and/or direction of the antenna. (18) If an indoor antenna is being used, change to an outdoor antenna. (18) Try using an antenna with more elements.
Noise is excessive in both stereo and monaural broadcasts.	Poor location and/or direction of the antenna. Transmitting station is too far away.	<ul style="list-style-type: none"> Try changing the location, height and/or direction of the antenna. (18) If an indoor antenna is being used, change to an outdoor antenna. (18) Try using an antenna with more elements.
The "STEREO" indicator or the "TUNED" indicator flickers, without completely illuminating.	Poor location and/or direction of the antenna. Transmitting station is too far away.	<ul style="list-style-type: none"> Try changing the location, height and/or direction of the antenna. (18) If an indoor antenna is being used, change to an outdoor antenna. (18) Try using an antenna with more elements.
Excessive distortion in the sound of stereo broadcasts.	Nearby building or mountain.	

While listening to AM broadcasts		
An unusual "beat" sound is heard.	Unit is being used at the same time as the television set. Interference from adjacent broadcast signal.	<ul style="list-style-type: none"> Turn off the television set, or use this unit farther away from it. Try reducing the treble sound by using the treble control. (18)
A low-pitched "hum" sound is heard when the station is tuned.	The AM loop antenna connection wires are too close to the power cord. The power supply frequency from the power cord is modulated and heard from the speakers.	<ul style="list-style-type: none"> Place the antenna connection wires and the power cord farther apart. Install a special outdoor antenna. (18)
A strange hissing noise is produced continuously or intermittently.	Caused by the "discharge phenomenon" and the "oscillation phenomenon" of electric appliances (such as fluorescent lights, TV, small series-type motors, rectification equipment, etc.).	<ul style="list-style-type: none"> Try placing this unit farther away from such equipment.

Common Problems		
Power will not switch ON.	The power cord plug is not completely inserted.	<ul style="list-style-type: none"> Confirm that the power cord plug is connected completely.
No sound is heard.	The speaker indicator(s) is(are) turned off.	<ul style="list-style-type: none"> Turn on the speaker indicator(s). (18)
	The muting function is ON.	<ul style="list-style-type: none"> Press the muting button. (18)
	Connections to the speaker systems or external equipment are incomplete or incorrect.	<ul style="list-style-type: none"> Check that all wires and cables are correctly connected. (6-9, 12-15)
	The incorrect input source has been selected.	<ul style="list-style-type: none"> Check that the correct source is selected. (16)
Sound stops during a performance, or no sound is heard when the power is switched ON. (The word "OVERLOAD" appears on the display.)	The protection circuitry has functioned because the positive and negative speaker connection wires have "shorted," speaker systems with an impedance less than the indicated rated impedance of this unit have been used or are under severe use, such as through excessive volume, excessive power or being in an excessively hot environment.	<ul style="list-style-type: none"> Switch off the power, and after determining and correcting the cause, switch on the power once again. Use a speaker system of the proper impedance rating. (13-15)

Technical specifications (DIN 45 500)

■ AMPLIFIER SECTION

Power output (at 240 V for Australia and N.Z.)
(at 127 V for others)

DIN 1 kHz (T.H.D. 1%) 2×100 W (6 Ω)

20 Hz-20 kHz continuous power output
both channels driven 2×80 W (6 Ω)

Total harmonic distortion

rated power at 20 Hz-20 kHz 0.05% (6 Ω)

half power at 1 kHz 0.03% (6 Ω)

Power output at the Dolby Pro Logic operation

DIN 1 kHz (T.H.D. 1%)

Front (for Australia and N.Z.) 2×100 W (6 Ω)
(for others) 2×85 W (6 Ω)

Center (for Australia and N.Z.) 100 W (6 Ω)
(for others) 85 W (6 Ω)

Surround (for Australia and N.Z.) 2×100 W (6 Ω)
(for others) 2×85 W (6 Ω)

Subwoofer (f=100 Hz) (for Australia and N.Z.) 100 W (6 Ω)
(for others) 85 W (6 Ω)

Power bandwidth

both channels driven, -3dB 10 Hz-40 kHz (6 Ω)

Damping factor 30 (6 Ω)

Load impedance

Front

A or B 4-16 Ω

A and B 8-16 Ω

BI-WIRE 6-16 Ω

Center 8-16 Ω

Surround 6-16 Ω

Subwoofer 6-16 Ω

Frequency response

PHONO RIAA standard curve
(30 Hz-15 kHz) ±0.8 dB

CD, TAPE, DVD, VCR 1, TV/VCR 2, VCR 3

10 Hz-40 kHz, ±3 dB

Input sensitivity and impedance

PHONO 3 mV/ 47 kΩ

CD, TAPE, DVD, VCR 1, TV/VCR 2, VCR 3 200 mV/ 22 kΩ

S/N at rated power (6 Ω)

PHONO 70 dB (IHF, A: 80 dB)

CD, TAPE, DVD, VCR 1, TV/VCR 2, VCR 3

75 dB (IHF, A: 85 dB)

Tone controls

BASS 50 Hz, +10 to -10 dB

TREBLE 20 kHz, +10 to -10 dB

Output voltage

TAPE REC (OUT), VCR 1 OUT 200 mV

Channel balance (250 Hz-6.3 kHz) ±1 dB

Channel separation 55 dB

Adaptive control (volume at -30 dB) 50 Hz, +9 dB

Headphones output level and impedance 430 mV/330 Ω

Subwoofer cut off frequency control 50-200 Hz

■ FM TUNER SECTION

Frequency range 87.50-108.00 MHz

Sensitivity

S/N 30 dB 1.5 μV/75 Ω

S/N 26 dB 1.3 μV/75 Ω

S/N 20 dB 1.2 μV/75 Ω

IHF usable sensitivity 1.5 μV/75 Ω (IHF 58)

IHF 46 dB stereo quieting sensitivity 22 μV/75

Total harmonic distortion

MONO 0.2%

STEREO 0.3%

S/N

MONO 60 dB (75 dB, IHF)

STEREO 58 dB (71 dB, IHF)

Frequency response

20 Hz-15 kHz +1 dB, -2 dB

Alternate channel selectivity

±400 kHz 65 dB

Capture ratio 1.5 dB

Image rejection at 98 MHz 40 dB

IF rejection at 98 MHz 70 dB

Spurious response rejection at 98 MHz 70 dB

AM suppression 50 dB

Stereo separation

1 kHz 40 dB

Carrier leak

19 kHz -30 dB (-35 dB, IHF)

38 kHz -50 dB (-55 dB, IHF)

Channel balance (250 Hz-6.3 kHz)

±1.5 dB

Limiting point

1.2 μV

Bandwidth

IF amplifier 180 kHz

FM demodulator 1000 kHz

Antenna terminal

75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range

522-1611 kHz (9 kHz steps)

530-1620 kHz (10 kHz steps)

Sensitivity

20 μV, 330 μV/m

Selectivity (at 999 kHz)

55 dB

IF rejection (at 999 kHz)

50 dB

■ VIDEO SECTION

Output voltage at 1 V input (unbalanced)

1 ±0.1 Vp-p

Maximum input voltage

1.5 Vp-p

Input/output impedance

75 Ω (unbalanced)

■ GENERAL

Power supply

For Australia and N.Z.

AC 230-240 V, 50 Hz

For others

AC 110-127 V/220-240 V, 50/60 Hz

Power consumption

300 W

Dimensions (W×H×D)

430×158×378.4 mm

Weight

11 kg

Notes:

1. Specifications are subject to change without notice.

Weight and dimensions are approximate.

2. Total harmonic distortion is measured by the digital spectrum analyzer.

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner or benzene to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.